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FEED THE FUTURE UGANDA INCLUSIVE AGRICULTURAL MARKETS ACTIVITY (FTF IAM) BASELINE REPORT

August 2020

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ACRONYMS AND ABBREVIATIONS

AMELP	Activity Monitoring Evaluation and Learning Plan
BII	Business Innovation Index
CAADP	Comprehensive Africa Agriculture Development Programme
DSD	Disrupting Systems Dynamics
FRF	Factors of Resilience Framework
FtF IAM	Feed the Future Uganda Inclusive Agricultural Markets Activity
GDP	Gross Domestic Product
GOU	Government of Uganda
KII	Key Informant Interview
LEO	USAID Leveraging Economic Opportunities Project
MSA	MarketShare Associates
MSD	Market System Development
NGO	Non-Government Organization
PPP	Purchasing Power Parity
QA	Quality Assurance
SHF	Smallholder Farmer
SRI	Systems Resilience Index
UGX	Ugandan Shilling
USAID	United States Agency for International Development
USD	United States Dollar

EXECUTIVE SUMMARY

Feed the Future Uganda Inclusive Agricultural Markets Activity (FtF IAM) is a five-year USAID-funded activity that is being implemented by DAI alongside partners MarketShare Associates and TechnoServe. The Activity aims to increase the incomes of the poorest and strengthen the resilience of the agricultural market system. Upon completion, FtF IAM aims to have positively impacted 159,600 individuals, including 95,760 women and 63,840 youth.

FtF IAM plans to achieve its objectives through a market system development (MSD) approach. The MSD approach enables micro, small, and medium enterprises, and other actors to strengthen the agricultural market system, rather than intervening in the market directly. It employs evidence-based social and behavior change strategies, both to increase incomes of the poor and improve the system's resilience to shocks and stressors.

This baseline study establishes values for system-level indicators at the start of the program. These indicators are vital for understanding and assessing changes in the system over time. They also inform the work FtF IAM will be doing with partners to assess intervention-level indicators of change, as the Activity progresses. Key to this approach is the collection of both quantitative and qualitative data. Also, key is the sequential approach to data collection, first using secondary data, then administering a mixed methods baseline questionnaire, and finally following up with qualitative key informant interviews (KIIs).

FtF IAM's data collection was conducted during the COVID-19 pandemic. This caused rapid and significant shifts in the way research was completed. With the safety of researchers and respondents a priority of the Activity, and the need to adhere to government guidelines, the FtF IAM baseline team modified the methodology for this baseline. This impacted how data was collected, with the research team relying on phone interviews. It also impacted what data was collected, with respondents likely to be impacted by the shocks felt in the system. Where possible, we have mitigated these risks, by following best practice and following enhanced testing of research tools, however we recognize results may still have been impacted.

Table 1: Summary of focus indicator scores

#	Indicator	Baseline Score
2	Cumulative number of target market sub-systems that are more resilient	0
4	Average Business Innovation Index score	0.59 (/ 1.00)
11	Stakeholder perception on enforcement of agricultural inputs rules and regulations	1.55 (/3.00)
12	Trust and cooperation between market actors	1.47 (/3.00)
13	Quality and strength of relationships	1.51 (/3.00)

The baseline study that FtF IAM conducted in August 2020 gathered data against five systems-level indicators using seven modules. Data was collected from a total of 217 individuals across four regions in Uganda: Northern, Eastern, South-Western, and Karamoja regions.

A summary of the systems-level indicators is found in Table 1, with summary findings presented below:

Indicator 2: Cumulative number of target market sub-systems that are more resilient

Resilience is a fundamental aspect of systemic change, and is one of the three target characteristics of a market system, alongside competitiveness and inclusiveness. Market systems resilience is "the ability of a market system to respond to disturbance (shocks and stresses) in a way that allows consistency and sustainability in the market system's functioning, or that leads to improvement in its functioning".[1] As a key objective of FtF IAM, this baseline report sets the starting point for understanding future progress FtF IAM makes to that end.

The baseline score for the number of target market systems that are more resilient is 0. This represents the fact that the FtF IAM Activity has not yet been able to work to increase resilience in any of the sub-systems it will work in. To generate a baseline with which changes in resilience can be measured, this baseline scored six factors of resilience: market governance; diversity; networks; commercial norms; governance; and participation. Each of these were scored within a range of 0 to 1, with 1 representing the highest level of a resilience factor. The factors have been scored for the overall Ugandan agricultural system, along with two subsystems: inputs, and food processing and trading. The FtF IAM Activity will use these when assessing the extent to which the FtF IAM Activity has been able to improve resilience.

The target systems scored the highest in the diversity factor, indicating there is a variety of business models already in place and the system demonstrates a capacity to change quickly to deal with shocks and stressors. Participation is the weakest factor, with women and youth facing barriers to participate, meaning the system is reliant on only a few majority groups.

As FtF IAM selects additional sub-systems to target, it will establish baselines of their resilience during periodic data collection exercises.

Indicator 4: Average Business Innovation Index (BII) score

The level of innovation within a system, or the pace of change, indicates the level of risks market actors are willing to take, how quickly new business models may be adopted within the system, and how able the system is able to react to shocks and stressors. The BII was developed by MarketShare Associates and has been used for several market systems assessments as one of six system health tools[2]. The index comprises of responses to yes/no questions on 13 innovations types in a six-month retrospective time frame.

The average BII in Uganda's agricultural market is 0.59 on a scale of 0 to 1. The score for youth is 0.63 and women is 0.50. In general, this indicates an already high level of innovation within the agricultural system in Uganda, with women less likely to innovate than men, and the youth more likely to innovate than older individuals.

[1] Vroegindewey, R., 2019, *Guidance for Assessing Resilience in Market Systems*

[2] Sparkman, T., Field, M., and Derks, E., for MarketShare Associates, 2016, Practical Tools for Measuring System Health, USAID.

The highest innovation is seen in the area of products and services, with many market actors bringing in new varieties of products for customers or providing new services. The least innovation is seen in hiring practices, with most companies relying on direct connections when they looked for employees.

A significant level of innovation is already taking place in response to Coivd-19, primarily in transport and payments. Within transport, market actors are less able to rely on public transport and face increased demand for hygienically handled products, leading them to increasingly use private transport. In the short-term, this has lowered income for these market actors, with the longer-term impacts still unclear. Payments are increasingly using mobile technology, to decrease the use of cash and facilitate remote transactions. Again, the long-term impacts are not clear.

Indicator 11: Stakeholder perception on enforcement of agricultural inputs rules and regulations

Stakeholder perceptions on enforcement indicate the strength of norms within the agricultural system. These impact the ease of doing business, and the system's ability to be resilient. The index used in this baseline, therefore, provides a benchmark for the prevalence of behavior that supports effective market governance. Understanding this, including the forms of governance that are present and how effective these forms of governance are, will provide FtF IAM with clarity on which areas of governance can be targeted to improve the system.

The average perception of adherence to agricultural inputs rules and regulations in the system is 1.55 on a scale of 0 to 3. The score for youth is 1.71 and women is 1.55. This indicates a broadly negative view of enforcement of agricultural inputs rules and regulations, where rules and regulations exist, but are not regularly or consistently enforced.

Counterfeit products were the focus of negative responses and are reported to be highly prevalent. Despite market actors not accepting them, they are often unable to identify real products from counterfeits. Farmers (both SHFs and larger farmers) report the lowest perception scores, indicating they are the most affected by others disobeying input rules and regulations.

Indicator 12: Trust and cooperation between market actors

Trust and Cooperation in a system is necessary for inclusive growth and resilience to shocks and stressors. Trust and Cooperation can be separated, and each broken down into contributing aspects. For this baseline, trust is composed of integrity, competence, and reliability. Cooperation is composed of a belief in the importance of relationships, and a belief in mutual benefits. FtF IAM intends to improve Trust and Cooperation within networks, to affect market system dynamics and relationships at a deeper level.

The average score for Trust and Cooperation is 1.47 on a scale of 0 to 3. The score for youth is 1.46 and for women is 1.57. Trust alone is 1.43, with youth scoring 1.30 and women scoring 1.56. Within trust, the perceived integrity of market actors, as an aspect of Trust, is scored the lowest. Here, respondents frequently highlight instances where other actors are dishonest to further their own interests. Competence is scored highest, indicating most market actors believe that others can do what they say they will if they choose to. Cooperation alone is 1.55, with youth scoring 1.70 and women scoring 1.58. Respondents to the survey frequently express that cooperation is key for success.

However, cooperation reportedly does not usually move beyond transactions, and most market actors do not act with mutual benefits as a priority.

Indicator 13: Quality and strength of relationships

Improved quality and strength of relationships within networks is key to creating and sustaining systemic changes. The FtF IAM Activity will use this indicator to understand which aspects of relationships, and between which market actors, require strengthening the most. This indicator provides an overarching index, made up of four components of quality and strength of relationships, namely: communication; long-term orientation; social satisfaction; and economic satisfaction. The average score for Quality and Strength of Relationships is 1.51 on a scale of 0 to 3. The score for youth is 1.73 and for women is 1.61.

Communication is rated highly, with frequent information shared between market actors. This communication is generally reactive, but is frequent, and market actors are generally satisfied. Long-term orientation and economic satisfaction are the lowest scored aspects, and market actors describe relationships that are more focused on short-term transactions than long-term collaboration. Risks are not shared evenly, and often one party will bear losses rather than these being spread.

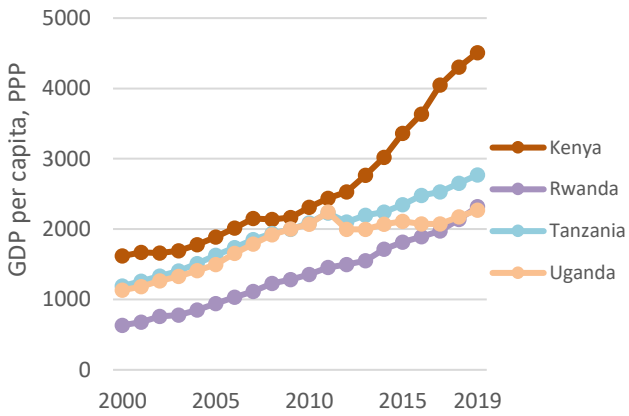
1. INTRODUCTION

1.1 ACTIVITY BACKGROUND

CONTEXT

Despite recent economic growth, Uganda remains a low-income country. From 2000 to 2019 Uganda's PPP adjusted GDP per capita doubled from $1,133 to $2,272. In the same period, life expectancy increased by over 16 years and poverty reduced by 12.4%.[3]

Figure 1: GDP per Capita 2000 – 2019



National incomes are low, and pathways out of poverty are unstable. Despite significant long-term progress in reducing poverty, recent levels have increased from a low of 19.7% in 2013 to 21.4% in 2016. Undernourishment is also increasing, and was estimated to be 41% in 2017.[3] While pathways out of poverty are never unidimensional, two of every three Ugandans who climb above the poverty line subsequently drop below again.[4] Taken in combination, these macroeconomic trends illustrate Uganda's continued need for growth to create an economy more resilient against poverty.

The economy, and particularly poor people, is reliant upon agricultural. In Uganda, agriculture employs 72% of the working population and accounts for a quarter of GDP.[5] The agricultural sector is particularly important in rural areas, where it is dominated by SHFs with an average farm size of between 0.8 and 1.6 hectares.[6] It is also in these rural areas where most of the poorest of Uganda's 36 million people live. Poverty rates in rural areas are 27% compared to 9% in urban areas, and access to services, including education and healthcare, is markedly lower.[7]

Growth in the agricultural sector is vital for increasing SHF's incomes, and increasing market systems' competitiveness, inclusion, and resilience. Despite the importance of agriculture, productivity, and growth in productivity, remains low. Currently, productivity is increasing at approximately 2.2%, below the Comprehensive Africa Agriculture Development Programme (CAADP) target of 6%.

Women play a vital role in Uganda's agricultural sector but are limited to lower value activities. Women contribute a higher share of crop labor, with more women than men working in farming—76% versus 62%. Despite this, women earn less income, tend to be concentrated in lower-value

[3] World Bank, (2020), *World Bank Data*, available at: https://data.worldbank.org/

[4] World Bank, (2020), *Uganda Country Brief*, World Bank, available: https://www.worldbank.org/en/country/uganda/overview

[5] UBOS (2016), National Population and Housing Census 2014, Uganda Bureau of Statistics: Kampala, Uganda

[6] Anderson, J., Learch, C. E. and S. T. Gardner (2016), *National Survey and Segmentation of Smallholder Households in Uganda: Understanding Their Demand for Financial, Agricultural, and Digital Solutions*. CGAP 2016

[7] http://documents1.worldbank.org/curated/en/996921529090717586/pdf/127252-WP-PUBLIC-UG-AgGAP-Final-Synthesis-Report-FINAL-lowres.pdf

and less influential roles, and receive smaller loans than men.[8] This is true of production, post-harvest processing and trade sector. This has a macroeconomic cost. The gender gap in agricultural productivity is 13% and the cost of this gap is 2.8% of the current crop output, or 1.6% of agricultural GDP.

With a huge proportion of the population below 30, agriculture has the potential to provide opportunities for youth. Each year, approximately 700,000 young people reach working age in Uganda. This is set to increase, with an average of one million young people per year reaching working age between 2030-2040.[9] However, with only 75,000 formal jobs created per year, many of these new entrants are reliant on informal, often low-paid, jobs. In this context, few young people want to become farmers, but there are growing opportunities within value addition of agricultural produce.[10] This has been supported by initiatives at various levels, including the Ministry of Agriculture, who launched the Strategy for Youth Employment in Agriculture in 2017.

The macroeconomic climate is making the need for resilience a rising priority. In recent years, Uganda has faced regional instability and adverse environmental events, with the most recent COVID-19 pandemic the most severe. This has led to global lockdowns, trade uncertainty, and increasing pressure on health systems that are ill-prepared to cope with waves of patients. The Ugandan Ministry of Finance, at the beginning of the pandemic, estimated a decline in economic growth of 1.4%, an increase in the number of poor people by 2.6 million, and government revenue loss of UGX 513 billion (USD 140 million) by June 2020 alone. For Ugandans, this means lower access to products and services, less ability to sell produce and lower resilience to future shocks and stressors.

ACTIVITY DESIGN

Feed the Future Uganda Inclusive Agricultural Markets (FtF IAM) is a five-year USAID-funded Activity that seeks to increase incomes, improve the livelihoods of households, and make markets resilient. Activity interventions target three key categories of partners: 1) agroindustry/agribusiness firms; 2) Government of Uganda institutions and agencies; and 3) market actor organizations (trader networks, civil society, producer/ farmer organizations and associations etc.). The Activity focuses on strengthening institutional capacity, creating opportunities for effective engagement in the marketplace and incentivizing public and private sector to invest in changes that facilitate sustainable market improvements. The Activity will run for five years, and is being implemented by DAI, along with partners MarketShare Associates and TechnoServe.

The Activity aims to achieve these objectives through a market system development (MSD) approach. The MSD approach aims to enable micro, small and medium enterprises and other actors to strengthen the agricultural market system. It relies on evidence-based social and behavior change, both to increase incomes of the poor and increase the system's resilience to shocks and stressors. The MSD implementation model for Activity design and implementation involves learning, then generating, testing, and scaling ideas, all in collaboration with market system actors.

The Activity aims to significantly increase the incomes of the poorest and improve the resilience of the agricultural market system. Upon completion, FtF IAM aims to have positively impacted 159,600 individuals, including 95,760 women and 63,840 youth.

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[8] Feed the Future Monitoring System Data, accessed April 2016.

[9] https://www.worldbank.org/en/country/uganda/overview

[10] Aga Khan University (2016), The Uganda Youth Survey Report, August 2016, Available at: https://www.aku.edu/eai/Documents/the-uganda-youth-survey-report-august-2016.pdf

1.2 RESEARCH PURPOSE AND QUESTIONS

The purpose of this baseline study is to establish the starting point for each of the FTF IAM indicators and to learn more about the agricultural market system. This purpose is to be achieved by answering the five baseline research questions below.

1. Trust and Cooperation: What formal and informal rules and expectations between market actors affect the flow of information, financing, and commercial exchange of goods and services?
2. Quality and Strength of Relationships: What is the quality of commercial relationships existing both within target market systems and with related supporting systems?
3. Business Innovation: What kinds of changes—organizational, marketing, process, or product innovations—are agricultural market actors making to their business models, if any? What is the pace at which changes are being made?
4. Enabling Environment: What is stakeholder perception of the enforcement of formal and informal rules in the agricultural sector?
5. Inclusion: To what extent are business practices, attitudes, and norms within the Ugandan agricultural sector inclusive of women and youth?

2. METHODOLOGY

This section outlines the process of planning, collecting, and analyzing data for the baseline.

2.1 OUTLINE OF FTF IAM INDICATORS

FtF IAM's baseline establishes an initial value for the key changes that it expects to influence, which are articulated in FtF IAM's theory of change. The current version of this theory of change is presented in Annex 1.

FtF IAM will monitor its progress against two types of indicators:

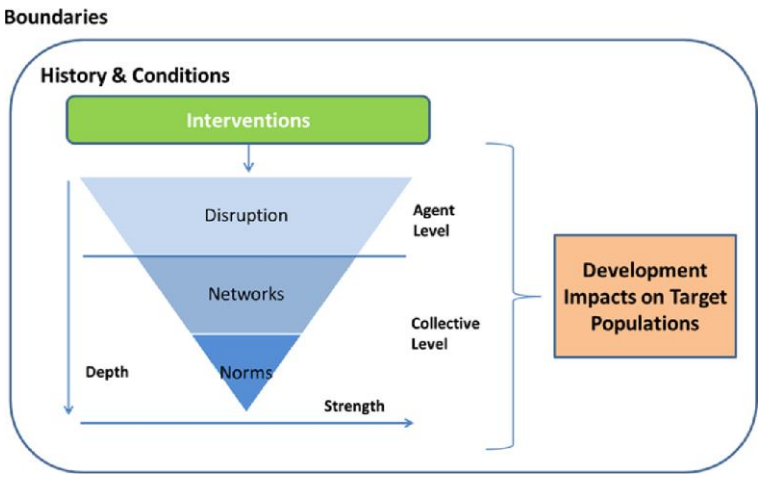
1. **Market system-level indicators**. These indicators measure changes in systems dynamics, incentives, social norms, services, and policy structures influencing producers and consumers. They help FtF IAM understand if its target market systems are becoming more competitive, resilience and inclusive.
2. **Intervention-level indicators**. These indicators measure the progress of specific FtF IAM interventions in achieving set income and inclusion outcomes. They help FtF IAM understand the performance of each intervention, thereby aiding decisions on whether to scale-up, adapt or drop the interventions in its portfolio.

2.2 FOCUS INDICATORS FOR THIS BASELINE

This baseline report focuses on the findings for the market system-level indicators. These types of indicators are best understood within the Disrupting Systems Dynamics (DSD) framework, developed for USAID's LEO program, and outlined in figure two.[11] There are two key components of the DSD framework:

First, the DSD framework conceptualizes systems change as disruptions that move **the market system down a new evolutionary path**. Behavior change is particularly important, and the change process is dynamic - shifts and interactions between market agents over time generate new norms and business practices.

Figure 2: The DSD Framework



Second, the DSD framework argues systemic change tends to follow a pathway that starts with change at the single "agent" level (which are typically captured via intervention-specific and partner-specific baselines and monitoring) and then progresses to affecting deeper, stickier changes in the underlying collective structures of a system that can be observed via changes in norms and networks. The latter are the market system-level changes that this baseline establishes a starting position for.

[11] MarketShare Associates. (2016). Disrupting System Dynamics: A Framework For Understanding Systemic Changes.

Each of the market-systems-level indicators are detailed in the table below, with a summary of the methodology being used. Intervention-level indicators are also included. Baseline values for these will be established via rolling baselines, in keeping with the AMELP, and will be conducted as FtF IAM identifies partners.

Table 2: FtF IAM Indicators

#	Indicator	Indicator type	Primary research for FTF IAM's baseline report
1	Value of annual sales of farms and firms receiving U.S. Government assistance (EG 3.2.-26)	Intervention-level	Rolling baseline to establish the existing value of sales with partners in the first implementation year.
2	**Cumulative number of target market systems that are more resilient**	**Market system level**	**Baseline value will assess resilience using input from each Research Question.**
3	Amount of investment (USD) made by firms in transforming and upgrading of agricultural commodities in supported business models	Intervention-level	Rolling baseline to establish the existing value of investment with new partners.
4	**Average Business Innovation Index score**	**Market system-level**	**Baseline value data from Research Question 3 – Business Innovation.**
5	Number of individuals in the agriculture system who have applied improved management practices or technologies with U.S. Government assistance (EG 3.2–24)	Intervention-level	Rolling baseline to establish the number of individuals as target management practices and technologies are identified in the first year of implementation.
6	Number of suppliers of inputs and services offering new business models for sales and distribution to end users	Intervention-level	N/A. This can only be observed after FTF IAM's interventions launch.
7	Number of firms or market actor associations with improved business management or profitability as a result of USG support.	Intervention-level	N/A. This can only be observed after FTF IAM's interventions launch. FtF IAM will begin collecting this data in the second year of the Activity, after partners have begun receiving support to improve business performance and profitability.
8	Number of market actors who continue to independently pursue activities that support the initial agricultural market innovation/ change 12 months after initial pilot has ended	Intervention-level	N/A. This can only be observed after FTF IAM's interventions launch. FtF IAM will begin collecting this data from former (e.g., pilot) partners in the third year of the Activity.
9	Number of individuals trading with the farms and firms directly supported with USG assistance	Intervention-level	Rolling baseline to establish the number of individuals as partners are identified.
10	Number of milestones in improved institutional architecture for food security policy achieved with U.S. Government support (EG.3.1-d)	Intervention-level	N/A. This can only be observed after FTF IAM's interventions launch.
11	**Stakeholder perception on enforcement of agricultural inputs rules and regulations in areas targeted with FtF IAM regulatory activities**	**Market system-level**	**Baseline value uses data from Research Question 4 – Enabling Environment.**

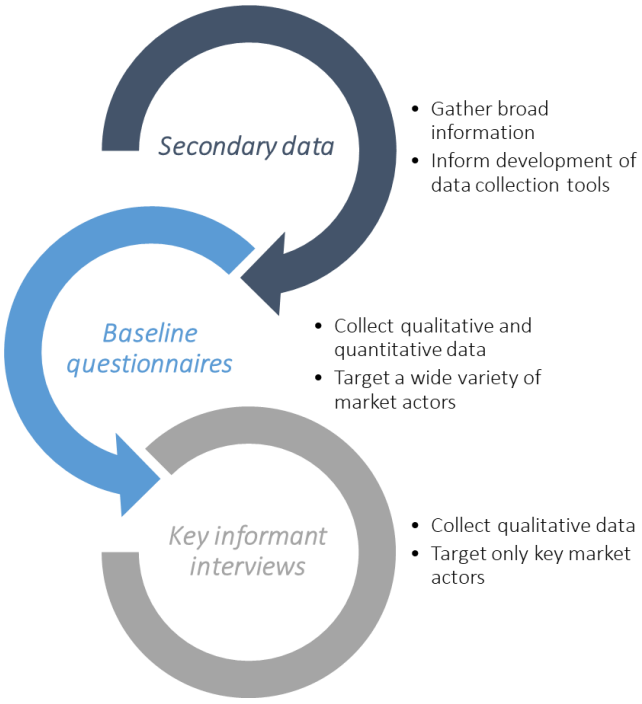
12	**Trust and cooperation between market actors.**	**Market system-level**	**Baseline value uses data from Research Question 1 - Trust and Cooperation.**
13	**Quality and strength of relationships.**	**Market system-level**	**Baseline value uses data from Research Question 2 – Quality and Strength of Relationships.**
14	# of individuals participating in USG food security program (EG 3.2)	Intervention-level	N/A. This can only be observed after FTF IAM's interventions launch. FtF IAM will collect this data from partners using partner baseline and follow-up data collection forms.

2.3 APPROACH TO DATA COLLECTION

To understand systems-level indicators, this baseline uses a mixed methods approach, collecting both qualitative and quantitative data, to build an understanding of how the system functions. This approach is different to many baseline approaches, which traditionally focus on intervention-level data. With the number of different actors present in systems, it is therefore not feasible to create a representative sample, and non-probability quota sampling was used, which is explained in further detail in the Respondents section of this report.

This baseline also uses a sequential approach to data collection. First, secondary data is used to generate contextual understanding of the systems in which data is collected, which informs the development of tools to be used in primary data collection. Next, a mixed methods baseline questionnaire was administered to a large sample, aiming to collect the views of actors across the system. Finally, key informant interviews (KIIs) were developed. These semi-structured interviews collect qualitative data from key market players. In combination, this approach explores market actors' behavior, expectations, and norms, key indicators for measuring systems-level change.

Figure 3: The sequential approach to data collection



To both answer the five research questions and generate measures for the five market systems-level indicators data were collected through phone interviews conducted in Uganda between June and July 2020. 217 interviews were conducted across 36 different actor types. The data collection team, led by MarketShare Associates, consisted of eight primary researchers, three quality assurance supervisors, and one team leader. Respondents were gathered from four regions of Uganda. These were Northern, South-Western, Eastern and the Karamoja region, the poorest region in Uganda.

RESEARCH ADJUSTMENTS DUE TO COVID-19

COVID-19 caused rapid and significant shifts in the way research could viably be done. With the safety of researchers and respondents a priority of the Activity, and the need to adhere to government guidelines, the FtF IAM baseline team modified the methodology for this baseline. These adjustments were, by necessity, made quickly and on an ongoing basis as the situation evolved.

Data collection needed to shift from in-person field interviews to remote phone interviews. This shift had several impacts, outlined below:

- *Shorter interviews*. To ensure respondents continue to give quality information, best practice is for phone interviews to be no longer than 30 minutes. Whilst it was not possible to conduct a full baseline questionnaire within 30 minutes, the FtF IAM team significantly reduced the amount of data we collected to achieve a questionnaire that took approximately 45 minutes to administer.
- *Recorded interviews*. For data quality purposes, all interviews were recorded after receiving consent from respondents. We do not know how this may have impacted the data, but anecdotally we are aware it may have prevented some information from being shared by respondents, who are not used to sharing sensitive information to researchers over the phone.
- *Rapport was harder to build*. Quality research relies on building rapport with respondents, and this is significantly harder over the phone. Researchers did receive training on building rapport during phone interviews, but we still expect this to have been less effective than it could have been if in-person interviews had been possible.
- *Respondent identification was more complicated***.** With all interviews conducted over the phone, respondents could only be contacted if they had access to a phone. This means that it was harder for the research team to reach the poorest farmers. To control for this potential bias in the baseline results, the research team focused on a larger number of cooperatives that were presumed to incorporate these farmers. Additionally, and despite supervisors asking respondents for convenient times to take part, there was a significant proportion of drop-outs due to researchers being unable to contact respondents.

Our results may also have been impacted by COVID-19, and we have controlled for this where possible. The market is in an unprecedented situation, and despite changes to the data collection processes aimed at minimizing disruption, respondents will be impacted by the COVID-19 context. During the baseline data collection, the most significant impact COVID-19 has had has been on the need for rapid change. COVID-19 has led to market actors suddenly needing to conduct business in a completely new way.

FtF IAM have controlled for this within modules. Where possible, responses that reference COVID-19 are specifically coded, and results are analyzed using data both with and without these data points included. However, there is the potential that some respondents have not full attributed their actions to COVID-19, and we may not have been told about all investments that were delayed or accelerated due to COVID-19.

More broadly, many of our modules focus on networks between market actors. During COVID-19, these networks will both have become more important, and have been under more strain. Whilst our interest is in the long-term trends, we understand individuals' long-term assessments will be influenced by their current situation, and this level of influence has not been possible to control for within this baseline.

APPROACH

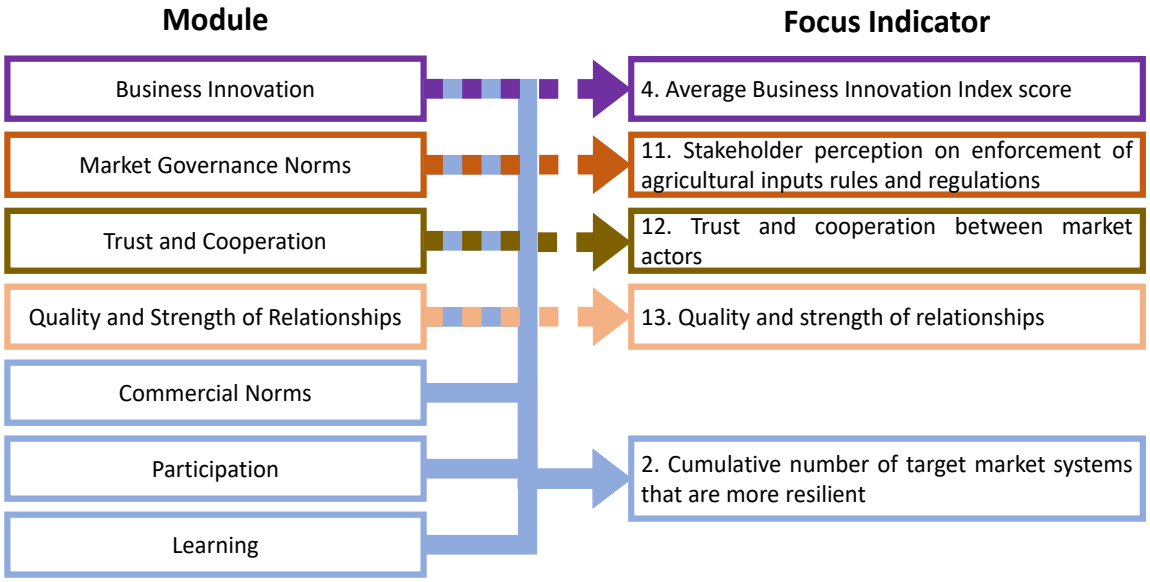
Data collection tools were designed to capture information against evaluation criteria for each of the focus indicators. The baseline was run in two phases of data collection:

Phase one used a baseline questionnaire, that collected data against seven modules, each of which were mapped to focus indicators. These modules collected both qualitative and quantitative data, ensuring all information could be understood in context. These modules, mapped to focus indicators, are outlined in figure 4.

Phase two used semi-structured phone interviews to collect qualitative data focused on three modules. This allowed the research to go into more detail on areas of interest. These modules were:

- Quality and Strength of Relationships
- Trust and Cooperation
- Participation

Figure 4: Baseline Modules and Indicator Mapping



Tools for each phase were developed in an iterative way.

- Step 1 – Tools are designed to collect information against assessment criteria for each focus indicator, as well as enabling information on broader topics to add contextual understanding.
- Step 2 – Tools are reviewed internally by our research team, and adjusted to suit the needs of respondents, resulting in different tools for different actor types.
- Step 3 – Tools are translated into the most used language (one language per region).
- Step 4 – A small test of the tools is run, with assessment focusing on the ease of administration, respondent comprehension and usefulness of data against assessment criteria.
- Step 5 – Adjustments are made to the tool, before a second test is run.
- Step 6 – The final tools are disseminated for data collection.

FIELDWORK IMPLEMENTATION

All interviews were completed by the FtF IAM field team of six researchers and three supervisors. Researchers were trained during a three-day session. The training covered the purpose of the baseline, the logistics of the fieldwork, the content of the question guides and the system for uploading notes and keeping track of progress. Researchers understanding of these topics was assessed through regular tests, which supervisors used to identify weaknesses in understanding.

Data collection was conducted over a period of three weeks in allocated respondents based on the languages spoken by researchers and respondents. Each interview was conducted over the phone by a single interviewer using the designated question guide. Interviews were all recorded and uploaded to a cloud-based storage system. These were also transcribed into English and submitted online. This system allowed supervisors to track progress against quotas, and to monitor the quality of information being received. A more detailed breakdown of interviews by region is found in Annex 2.

RESPONDENTS

The baseline targeted multiple types of actors operating in different areas of the market system to enable a holistic range of data to be collected. The FtF IAM baseline team first developed an actor map, which outlined core and supporting functions of the agricultural market system, in line with market systems best practice.[12] These functions included input supply; production; distribution; supporting services; and enabling environment actors. After being reviewed and validated both internally and externally, this map generated a list of 36 actor types, grouped by 5 market functions (see Annex 2).

A non-probability quota sampling strategy was used for primary data collection. This non-probability quota sampling, while not statistically representative, ensured discussions with the key actors in the market system for the target market functions, thus allowing the research team to understand the prevailing sentiment most effectively in the market. To determine the number of interviews to conduct, the baseline team set quotas per actor type and regional location based on an assessment of the relevance and strength of the actor in the market system. While initial quotas were set, the research team was responsive to the information gained, and continually assessed whether more interviews with specific actor types would provide only limited additional information (i.e. when saturation would be achieved). In these cases, the research team prioritized interviews with other actor types.

Supervisors used a mixture of convenience and snowball sampling to generate a list of potential respondents. These were informed by secondary research, project staff knowledge of the key players, and referrals by key informants, allowing the research team to ensure data were collected from within each actor type and across the four priority regions. Respondent contacts were identified in advance by the FtF IAM team, who confirmed willingness to participate. The primary objective during sampling was to ensure a sample size that included representation from all of the target market functions. After this, the team looked to maximize the number of respondents from typically excluded actor types, including the poorest, women and youth.

Overall, the research team exceeded the targeted number of responses. Within the phase 1 survey, 172 interviews were targeted, with 176 completed (102% of target). In the phase 2 KIIs, 32 respondents were targeted, with 41 completed (128% of target). A full list of interview targets and completed interviews is available in Annex 2. Some points of note from this data collection include:

[12] See https://beamexchange.org/guidance/analysis/mapping/

- Responses were typically highest within production, and researchers often collected additional data to ensure the core system was covered.
- Insurance companies and mobile banking companies were also difficult to contact. To ensure the financial sector was still represented, the research team conducted additional interviews with Banks.
- Farmer cooperatives provided a way of assessing the perspectives of farmers at a broad level, and so additional interviews were conducted with this group in both phase 1 and 2.
- The hardest population to reach was youth. This was largely given that youth in many cases do not yet occupy leadership positions within the respondent types that would equip them with the information needed to be a suitable respondent.

QUALITY ASSURANCE (QA)

The FtF IAM baseline team took multiple steps to ensure data quality. These include:

- Recruitment of high-quality qualitative researchers with significant field experience.
- Extensive training of researchers, instructions on proper, ethical data collection procedures, qualitative research techniques, and regular reviews of skills.
- Two rounds of survey instrument testing, with detailed feedback used to improve the instruments and hence the quality of data collected.
- Use of recordings and transcriptions of verbatim responses to limit paraphrasing of respondent intentions. Interviews were stored on a protected cloud-based store, to ensure records could be securely reviewed by supervisors.
- Daily QA checks completed by supervisors immediately after data was submitted, looking for missing data or data that was not of the right type or quality. This meant issues were raised and addressed within one to two days.

Figure 5: Baseline QA Approach

- Detailed QA checks completed by supervisors throughout, where recordings of interviews were listened to and compared to transcriptions. This high-level of scrutiny from the beginning meant that broader issues, which are usually harder to see, where uncovered and addressed whilst primary research was still ongoing.
- Regular debriefs between supervisors and researchers, initially on a daily basis, to run through common findings, issues, and concerns. These also informed adjustments to processes and tools where needed.

DATA PREPARATION

Quantitative and qualitative data analysis was completed separately using different programs and following different processes.

Quantitative data was exported to Microsoft Excel, and reviewed for missing information and anomalous results, per module. Analysis was then conducted for each module, with any unreliable data points identified, recorded, and then removed. The primary reason for removing data was an incomplete set of responses which invalidated its inclusion in scoring.

To enable qualitative analysis, the baseline team uploaded all qualitative responses to NVivo. The research team then coded all interviews using the computer-assisted qualitative data analysis software program NVivo. Codebooks were created with nodes and sub-nodes for each focus indicator.

3. FINDINGS

3.1 FOCUS INDICATORS

The system-level indicators covered in the following sections are summarized below in table 3.

Table 3: Overview of Focus Indicator Scores

#	Indicator	Baseline Score	Status Findings
2	Cumulative number of target market systems that are more resilient	0	The factors of resilience have been scored for the overall agricultural system, and the inputs and food processing & trading sub-systems. These set a baseline against which progress will be measured throughout the FtF IAM Activity. As more sub-systems are identified, these will be subject to qualitative evaluations during the annual review of the factors of resilience.
4	Average Business Innovation Index score	0.59 (/ 1.00)	The average BII is 0.59 on a scale of 0 to 1. The score for youth is 0.63 and women is 0.50. In general, this indicates an already high level of innovation within the agricultural system in Uganda, with women less likely to innovate than men, and the youth more likely to innovate that older individuals.
11	Stakeholder perception on enforcement of agricultural inputs rules and regulations	1.55 (/3.00)	The average perception of agricultural inputs rules and regulations is 1.55 on a scale of 0 to 3. The score for youth is 1.71 and women is 1.55. This indicates a broadly negative view of enforcement of agricultural inputs rules and regulations.
12	Trust and cooperation between market actors.	1.47 (/3.00)	The average score for Trust and Cooperation is 1.47 on a scale of 0 to 3. The score for youth is 1.46 and for women is 1.57. Trust alone is 1.43, with youth scoring 1.30 and women scoring 1.56. Cooperation alone is 1.55, with youth scoring 1.70 and women scoring 1.58

3.2 AVERAGE BUSINESS INNOVATION INDEX BASELINE SCORE

This subsection responds to the focus indicator 4: Average Business Innovation Index Score, by summarizing the findings from the business innovation index for the agricultural market system. The BII is useful to understand the rate of change within the market system at a set point in time. This indicates the level of risks market actors are willing to take within different areas of business and contributes to a system's ability to react to shocks and stressors.

The BII was developed by MarketShare Associates and has been used for several market systems assessments as one of six system health tools[13], most recently for USAID baselines in Mozambique and Rwanda. The index comprises of responses to yes/no questions on 13 innovations types in a six-month retrospective time frame. For this index, innovations are defined as improvements made by a business or organization in the last six months. Because the focus of the BII is understanding the pace of innovation in a market system rather than its quality, no judgement is made on how significant these

[13] Sparkman, T., Field, M., and Derks, E., for MarketShare Associates, 2016, Practical Tools for Measuring System Health, USAID.

changes are to the business, as long as they have had some tangible impact. This score is constructed by multiplying the number of innovations reported by a respondent by 0.2, up to a maximum score of 1. If a respondent has more than five innovations, their score remains at 1.

During testing, the baseline team discovered that many of the 13 innovation questions were related to changes made in response to COVID-19. To control the potential bias created by the need for business model changes due to COVID-19, the BII was modified to explicitly record if changes were related to COVID-19. To normalize the BII scoring index calculation, changes that were due to COVID-19 were excluded from the final scoring as they represent extreme reactions to a specific shock, rather than the typical rate of change. Some actor types have also been excluded, based on each market actors' ability to innovate in a way that is significant for the agricultural market system. The excluded actor types are NGOs, community radio, research institutes, and household consumers.

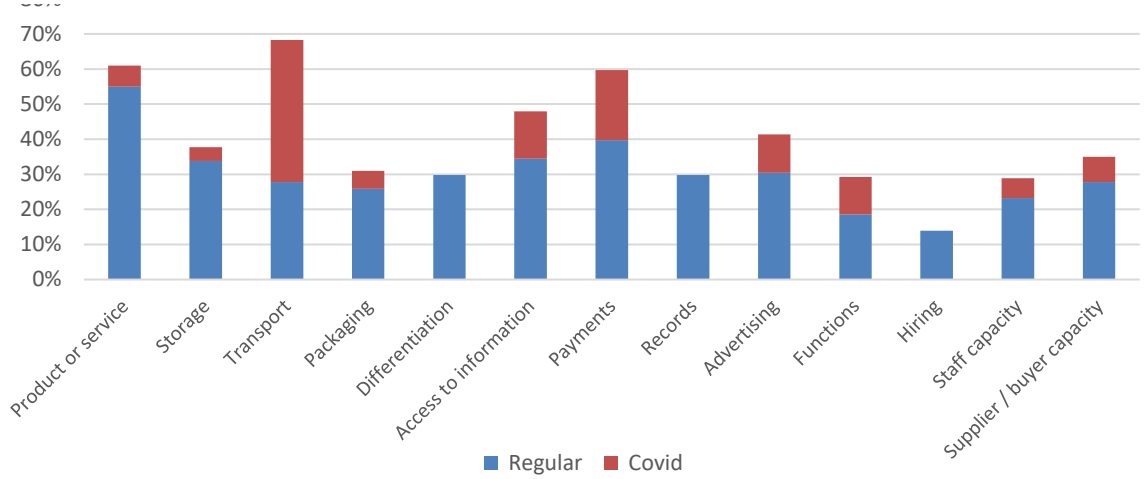
The level of innovation in the Ugandan agricultural sector is high, with a mean BII score of 0.59 and a median score of 0.6. This indicates that, across the agricultural market system, actors made around three innovations in the last six months. This is a high degree of innovation, demonstrating the Ugandan agricultural sector is a dynamic one where actors are able to make regular changes to business models.

The most common innovations, controlling for the impact of COVID-19, are new or modified products and services. In a market system where several actors' core business is to sell consumable products, this source of innovation is expected. Innovations in products and services were often reported for new types of agricultural inputs being sold, or modified services being offered to farmers.

Transport innovations are where COVID-19 has had the biggest impact. The scale at which COVID-19 is impacting the market system is made clear by the amount of innovation recorded in response to COVID-19. By far the biggest area of innovation impacted is transport. 40% of respondents indicated they had made a change to the way they transport goods due to COVID-19, compared to 28% changing for other reasons. Qualitative responses indicate that market actors have had to quickly find new ways of transporting goods, due to either their inability to use public transport, or the greater demands for hygienic transportation.

Innovations in payments are common and may have been accelerated by COVID-19. Payments are a common innovation, where individuals cite moving towards mobile money payments and formal banking arrangements. This is a shift that is already underway, but our results show that the pace of change has been significantly increased by COVID-19. In these cases, many individuals and businesses have begun or increased their use of mobile money to allow for remote transactions without the need to physically interact.

Figure 6: Share of Respondents Reporting each BII Innovation Type (n = 151)



"We have moved away from direct cash, to reduce contact with farmers and money. Now we are doing 90% mobile money and cheque payments."

Aggregator – Eastern Region

Information is being shared through more channels and is increasingly shared remotely. Many of the innovations in access to information have been facilitated by increases in access to the internet. Common innovations include the set-up of messaging groups between peers, or new channels of distributing information to buyers.

There is the least innovation around hiring strategies. Many respondents either do not employ staff or relying on traditional hiring methods such as recruiting from family or friends. This is in keeping with the generally low level of formal employment in Uganda, where informal firms do not have policies or procedures in place. Innovations in staff capacity are also low, indicating the way businesses either employ or train staff has been stagnant.

Table 4 presents mean BII scores. BII scores are calculated by multiplying each respondent's total number of innovations in the last six months by 0.2 up to a maximum of five innovations (the highest possible score is 1). The mean BII score across all respondents is 0.59 with a median value of 0.6. Within the supply chain, Input Providers have the highest levels of innovation, whilst Distributors report the fewest. Innovation is the lowest amongst actors within the enabling environment, which include government, media, and research institutions.

Less formal actors have low levels of innovation SHFs, small-scale aggregators and local transporters have an average BII score of 0.347, indicating those with the least resources are the least able to make changes to their business models.

There is a noticeable difference in levels of innovation between both women and men, and the

Table 4: BII Scores by Market Functions

Market Function	Mean BII score
All (n = 150)	**0.59**
Supply Chain (n = 105)	0.64
Inputs (n = 49)	0.70
Farmers (n=22)	0.71
Distributors (n=34)	0.50
Support (n =35)	0.51
Enabling (n = 10)	0.34

youth and older respondents. Women are less likely to innovate, and qualitative data, explored more under Market System Resilience, indicates this is due to a lack of access to capital and the additional responsibility women have for childcare and household chores. The youth, who are also reported to have lower access to capital, report higher levels of innovation. Qualitative data again provides some insight, with many respondents reporting the youth to be more involved in the service industry rather than traditional production, where the pace of innovation is generally higher.

Table 5: BII Scores by Demographic

Demographic	Mean BII score
Women (n = 40)	0.50
Men (n = 108)	0.62
Under 30 (n = 21)	0.63
30+ (n =126)	0.59

With innovations already at a high level in some areas, the FtF IAM Activity will seek to support innovation in a targeted way. The baseline has shown that there are some areas where innovation is already high, and others where business models are less agile. Both present opportunities for FtF IAM, either to support areas that are dynamic, and so will be easier to influence pro-poor changes, or to identify how innovation can be stimulated in areas where there is stagnation.

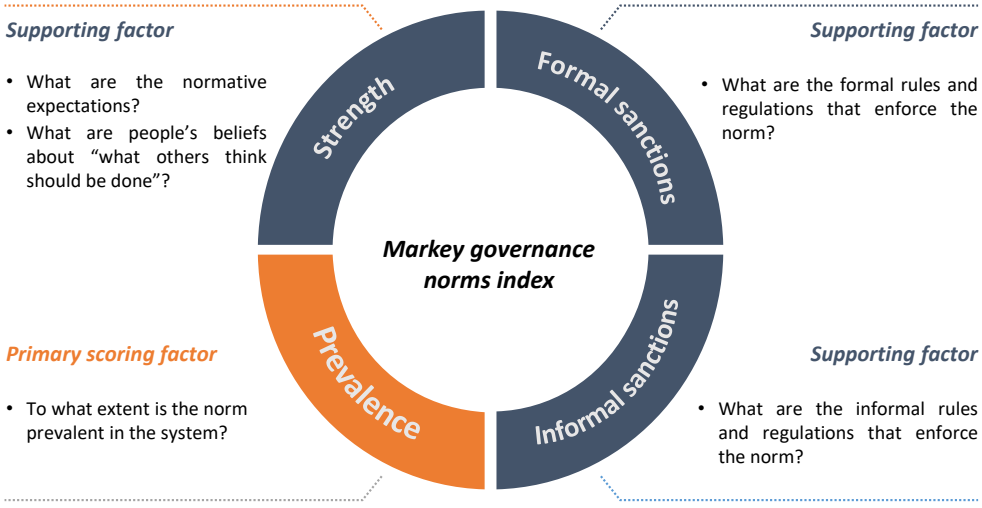
3.3 MARKET GOVERNANCE NORMS INDEX BASELINE SCORE

This subsection summarizes the baseline value for the focus indicator 11: Market Governance Norms Index. The Market Governance Norms Index explores the perceptions of market players on the effectiveness of regulatory enforcement, through both formal and informal channels. This index, therefore, provides a benchmark for the prevalence of behavior that supports effective market governance. Understanding this, including the forms of governance that are present and how effective these forms of governance are, will provide the FtF IAM with clarity on which areas of governance can be targeted to improve the system.

The analysis of perceptions focuses on the prevalence of two norms. The first is the general norm that: "*it is acceptable to break agricultural regulations*". The second is a specific application to counterfeit products, being that: "*it is acceptable to buy and sell counterfeit inputs*". Scoring is focused on the extent to which the norm is prevalent in both circumstances, providing the most concrete way of measuring the effectiveness of governance. This provides a score, on a 0 – 4 scale, where 0 indicates respondents do not expect anyone to adhere to the set governance norms, and 4 indicates respondents expect full adherence. This index is supported by additional analysis surrounding three underlying factors:

- The strength of the norm
- The formal sanctions for breaking the norm
- The informal sanctions for breaking the norm

Figure 7: The Factors of Market Governance Norms



For most market actors, there is an expectation that norms surrounding adherence to rules and regulations are not widely prevalent, with an index score of 1.55. This index score, out of a potential four, shows respondents expect others not to adhere to norms that lead to compliance to rules and regulations in the system.

Farmers have the lowest governance norms index score. Farmers are the actor group that are most likely to be impacted by rules and regulations, from the inputs they buy, the growing practices they follow and the way they sell produce. Therefore, it is interesting to note that it is here where respondents are most negative about others' intentions to follow agricultural rules and regulations, indicating they frequently see others breaking governance norms.

Input providers are the most positive but acknowledge that there is a dual market system. The first market is the formal market, where there are clear links from manufacturers to licensed sellers. The second market is more localized, with many informal sellers who are unable to verify their products as genuine. The second market is, therefore, less easily regulated, and centers on weekly markets in rural areas: "*The sale of counterfeit agricultural inputs is common in weekly markets. People prefer going to weekly markets rather than travelling to town, which is very far*." Aggregator, Eastern Region.

Table 6: Market Governance Norms Scores by Market Function

Market Function	Mean score (/4)
All (n = 161)	**1.55**
Supply Chain (n = 1012)	1.58
Inputs (n = 47)	1.73
Farmers (n=26)	1.29
Distributors (n=33)	1.70
Support (n =30)	1.42
Enabling (n = 19)	1.55

Respondents report the least counterfeits when they are connected to formal suppliers, either directly or through licensed sellers. Some respondents identify efforts to reduce counterfeit inputs, including certification schemes for genuine products, direct links to seed producers, and testing support from local governments. For example: *"Farmers buy from licensed dealers, and germination tests are conducted before seeds are sold"* Aggregator, Karamoja. However, these are not common, suggesting that for most market actors it is difficult to identify where rules and regulations have been broken. It is particularly clear that governance approaches to regulations outside of counterfeit goods are relatively immature, with much fewer examples of how these are proactively managed.

Other actor types report the lack of adherence to rules and regulations is due to knowledge. A repeated reason for lack of adherence to norms is that farmers are unable to tell the difference between genuine and counterfeit goods or are not aware of regulations that impact them. Without broad information sharing and training, SHFs in particular do not have the capacity to meet rules and regulations.

"Most farmers buy counterfeits because they don't know them, they can't differentiate between counterfeits and genuine inputs" – Service Provider, Karamoja.

"Some people lack knowledge on the required rules and regulations and break some rules due to ignorance." – Wholesaler, Northern Region.

"*Due to seed marketing gaps (in the supply chain) farmers end up buying seeds from quack dealers as opposed to certified agro-dealers by reputable seed producers*" Seed producer, Karamoja.

Market actors also commonly expect farmers to break rules and regulations to increase their incomes, which are recognized to be very low. This comes in three forms:

1. SHFs try to save money on inputs, and so are more likely to buy counterfeit products: "There is a seed company that sells fake seeds that are affordable. Farmers keep buying from it every season because they are cheaper" – Exporter, South-Western Region.
2. SHFs are unable to invest in capital, so are unable to follow some regulations, for example those that specify the need for specialist equipment: "When you go to farmers and see how they are spraying, they do not use those rules and regulations like protective gear and if advised to buy protective gear, he insists he has no money" – Extension officer, Eastern Region

3. SHFs also use techniques to sell their products more quickly, or for a better price: "You find some farmers spraying herbicides on beans to force them to dry and sell when prices are high, and beans are not yet ready." – Transporter, South-Western Region

There is little difference between scores for either women and men, or the youth and older workers. As table seven shows, scores are consistent across demographic groups. This indicates that the underlying reasons are common across actor types.

Table 7: Market Governance Norms Scores by Demographic

Demographic	Mean score (/3)
Women (n = 44)	1.55
Men (n = 126)	1.57
Under 30 (n = 28)	1.71
30+ (n =144)	1.52

THE STRENGTH OF THE NORM

Despite rules and regulations regularly being broken, respondents are generally opposed to the sale of counterfeit goods and support the adherence to rules and regulations. Supporting Service providers believe most strongly in the norms that lead to adherence to rules and regulations, followed by those within the enabling environment. Within these groups it is accepted that consumers will reject counterfeit goods. These views differ slightly by actor type, and producers are generally neutral about the norms surrounding either counterfeits or general adherence to rules and regulations.

Respondents emphasize more information needs to be provided to farmers to effectively sensitize them on the risks that using counterfeits brings. It is still the case that some farmers are seen to not understand the benefits of good quality products, and so opt for alternatives due to price. Our baseline finds that market actors generally call for more information to be provided to farmers to increase their understanding in this regard.

"Most farmers are not aware about counterfeits, but they don't accept them socially" – Extension officer, Karamoja Region

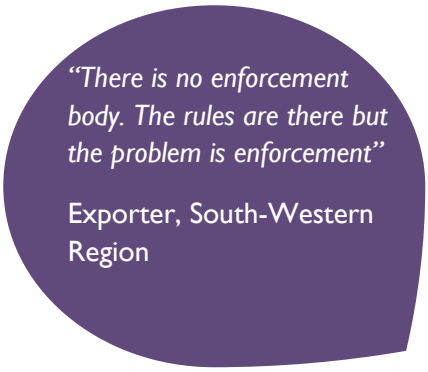
"Very few farmers, agro-dealers and staff of seed producers understand agricultural rules and regulations" – Seed producer, Karamoja Region.

"Most farmers are not guided on what kind of seed they can buy from the market. They just go and buy without much knowledge" – Aggregator, Karamoja Region

THE FORMAL SANCTIONS FOR THOSE BREAKING THE NORM

Formal sanctions are in place, and there is evidence that action is taken against those breaking rules and regulations. The baseline found that many respondents believed that there were formal punishments for those breaking rules and regulations. A prominent body is the District Agricultural Office, who controls fake products by granting licenses to sellers and have begun making arrests, particularly where counterfeit goods are being sold.

However qualitative responses showed that, in many cases, these are not well implemented. Farmers, as a group, disagreed with the majority, and were neutral between agreeing or disagreeing with the notion that formal sanctions would be applied to those breaking rules and regulations. This can be for several reasons, including:



- Lack of effective governing bodies: "There is also no body to enforce. The rules are there but the problem is enforcement" – Exporter, South-Western region
- Lack of capacity in local governments: "We don't have yet a streamlined way of ensuring that fake inputs are regulated, and we don't have agricultural police that would help the department, so prosecution is hard" – Local Government, South-Western region
- Corruption within governing bodies: "Culprits bribe police whenever caught, and they are released which means they will continue breaking the law" – Stockist, Karamoja region.

THE INFORMAL SANCTIONS FOR THOSE BREAKING THE NORM

Informal sanctions are seen to be very strong in the agricultural market. In this area there is a consistently strong agreement that informal sanctions were in place and applied. Sanctions were dominated by a shop's loss of customers and a loss of reputation. Many examples were given by respondents from different actor types:

- "[If a business breaks rules and regulations,] they will lose customer's trust and eventually collapse since no customer will be willing to buy from them. If they find out, farmers will ask such businesses to return the money paid for fake products" – Aggregator, Karamoja region
- "Businesses operate on customers trust and loyalty. No business owner would want to risk losing customers or damage their reputation by breaking the laws, like selling counterfeits" – Agro-dealer, Karamoja region
- "If you sell fake products to people, they will not come back to you" – Consumer, Northern region

The only exceptions to this were where monopolies exist or if alternatives were very expensive. This is present where there is little competition in the local market, leaving customers unable to switch suppliers. "*Where there are monopolies it is hard. You have nowhere to run. For them business pressure is not a problem*" – Farmer's cooperative, South-Western region.

3.4 TRUST AND COOPERATION BETWEEN MARKET ACTORS BASELINE SCORE

This subsection summarizes the baseline value for the focus indicator 12: Trust and cooperation. Trust and Cooperation measures the informal rules and expectations in the market system that govern behavior and set expectations among and between market actors. Uganda FtF IAM intends to improve trust and cooperation within networks between several types of actors, to affect market system dynamics and relationships at a deeper level.

To measure the norms of Trust and Cooperation, MarketShare Associates developed an indexed scale running from 0 (low) to 3 (high). This has been applied in other market systems assessments for USAID, most recently in Rwanda, to measure expectations between suppliers and customers. The index values are constructed by analyzing the dimensions of trust (integrity, competence, and reliability), and cooperation (belief in the importance of ongoing relationships, and belief in mutual benefits). Thematic framework analysis was used to individually score interviews. Evaluators interpreted qualitative responses by the established assessment criteria for each dimension and scored responses using a scale from 0 - 3.

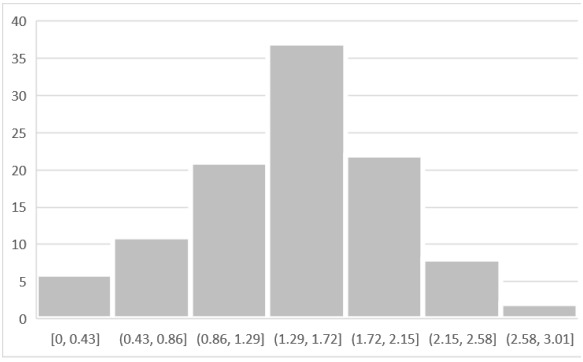
Table 8: T&C Scores by Market Function

Market Function	Mean score (/3)
All (n = 111)	**1.47**
Supply Chain (n = 83)	1.49
Inputs (n = 31)	1.64
Farmers (n=24)	1.37
Distributors (n=23)	1.37
Support (n =20)	1.52
Enabling (n = 8)	1.16

Table 9: T&C Scores by Demographic

Demographic	Mean score (/3)
Women (n = 38)	1.57
Men (n = 71)	1.44
Under 30 (n = 21)	1.46
30+ (n =90)	1.48

Figure 8: Distribution of T&C Scores



Overall, the Trust and Cooperation index is 1.47. This is made up of Trust: (1.43), and Cooperation: (1.55). The average score is very close to the mid-point of 1.5, and overall scoring follows a normal distribution, with more extreme negative responses than positive. The index is highest for input providers, particularly small scale stockists and retailers. SHFs and farmer cooperatives have very low levels of Trust and Cooperation, scoring 1.27 and 1.33, respectively.

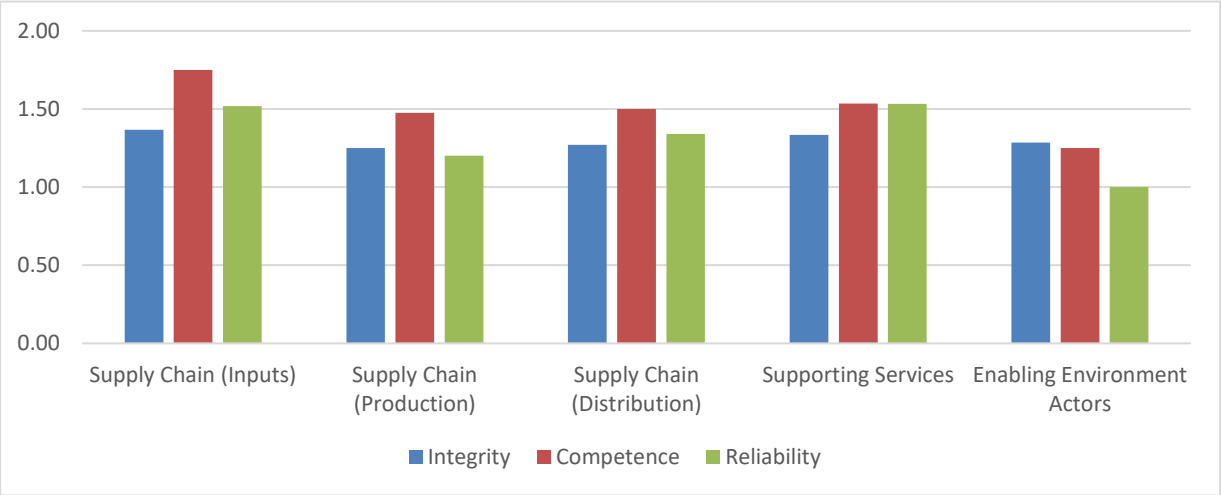
Women have higher index scores for Trust than men, with 1.56 vs 1.37, whilst scores for cooperation are similar. This indicates that women expect others to be more trustworthy but have similar perceptions of others' willingness to invest in relationships and mutually beneficial gains.

Youth have lower scores of trust, but higher scores of cooperation. The youth score for integrity is particularly low, indicating they expect others to regularly deceive them. However, their belief in the importance of relationships is highest.

TRUST

The degree of trust in a market system is important because it signifies a willingness to take on risk and be confident that any short-term inequities encountered with a business partner can be resolved. To aid an understanding of trust, we explore three specific dimensions of trust – integrity, competence, and reliability – assessing levels of expectation of trust from 0 to 3 (low to high).

Figure 9: Trust Scores by Market Function



Integrity—the expectation that a provider or consumer will be fair or just in dealings— has an index score of 1.33. This is the lowest score within trust, with all actor types scoring low. Producers had the lowest scores, and SHFs and cooperatives scored 1.14 and 1.15, respectively. Input providers, the highest scoring, were only slightly higher, indicating a general lack of perceived integrity across actor types.

Examples of high integrity:

- High integrity is seen where market actors stuck to terms of agreement, and communicated early when these terms needed to change, leading to a two-sided negotiation. Where these standards were not met, some input providers gave examples of being able to return products and receive refunds or new stock.
- When dealing with informal SHFs, there are examples of integrity with agreements, even when they have no signed contracts. These approaches seem to require patience, with a certain number of SHFs still likely to default or not meet expectations but are reported positively by some market actors.

"Our buyer has consistently fulfilled our agreements. They don't change terms of engagement without informing and consulting with us. Where they have changed/revised prices, they have always consulted us (farmers)" – Large farmer, South-Western region

"Trust is key in our business and both my suppliers and customers keep their word/promises. The out-grower farmers supply good quality vines and right quantities. None of my customers has defaulted on payments, although some customers delay payments, they never default." – Seed producer, Eastern region

Examples of low integrity:

- In most cases, respondents have recent examples of where they feel another actor has lacked integrity. This usually comes in the form of changes to agreements which result in financial loss for one party. Prices can change quickly and without warning, often to the detriment of farmers.

"I have a problem with the system of cooperatives, all of them manipulate people. When you are planting, they make promises of what they are going to do, but they don't deliver." – SHF, Northern region

"Middlemen are cheats and don't enter into agreements. The buyers in Soroti are unreliable, you discuss with them a price on phone but when you take your produce, they change the price earlier agreed on phone and offer you a lower price, they are untrustworthy." – Commercial farmer, Karamoja region

"There is nothing like trust apart from creating an information gap where the buyer or the middleman has more information than the farmer - the farmer is always at a losing end and very vulnerable. A buyer knows that he can get matoke from a farmer at UGX 2,000 and sell it at the nearest trading center at UGX 6,000. At the end of the day, the farmer is cheated." – Local Government, Karamoja region

Competence—the expectation that a provider or consumer can do what they say— has an index score of 1.57. Competence is rated the highest element of trust. Those in the core supply chain, particularly within Inputs, were the most positive, indicating there is general capacity of production. Enabling environment actors were the least positive, with 1.25.

Examples of high competence:

- Input providers consistently gave high scores for competence, citing the high quality produce they buy from mainly formal suppliers, backed up with the ability to return produce if it did not meet standards.
- Where market actors successfully rely on informal agreements, this is usually based on experience of a successful relationship where competence has already been proven.

"My Suppliers deliver the ordered quantities in time and in their rightful quantities and quality. All drugs are delivered at wholesale prices. On rare cases, I receive drugs with expiry dates closer (less than a year), which I normally return to them." – Stockist, Karamoja region

"For farmers we have no issues with them they will always supply agreed quantity unless they have been affected by weather conditions." – Farmer cooperative, Eastern region

Examples of low competence:

- When addressing competence of SHFs, capacity, as an issue of competency, is often a problem. This can be for a number of reasons including access to capital and inputs; a lack of commercial mentality; inability to provide quality products; and a dependence on free inputs – labelled donor dependence.

"SHFs have capacity problems because they are smallholder, so the quantity produced is low" – Farmer cooperative, Northern region

"We are not fully satisfied by the level of productivity by our farmers. They operate below their capacities. They have high prospects of producing more if they access the required support including mindset change towards commercial production, access to production inputs and equipment" – Exporter, Karamoja region

"With our buyers, the main reason that they change is quality. We have recruited someone in charge of quality assurance at the association so quality issues are expected to reduce." – Farmer cooperative, Northern region

"At a strategic level, there is the challenge of donor dependence that cripples the existence of these farmer groups when the donor agencies are gone." - Local Government Authority, Karamoja region

Reliability—the expectation that a provider or consumer will do what they say— has an index score of 1.39. This is highest (1.53) among Supporting Services actors, who primarily deal in contracts with farmers, or receive cash for services as they are performed. However, reliability is low (1.20) for Farmers within the supply chain, who rely on many different input providers and off-takers.

Examples of high reliability:

- Dealing with buyers who pay in cash is the most reliable type of relationship. This has very low risk, and if buyers can demonstrate their ability to pay to suppliers, they are often rewarded with supplier loyalty.
- Respondents put high faith in contracts which they believe will be followed and enforced. Whilst some respondents do question formal contracts, most report increasingly using them as ways to ensure clear terms and conditions.

"We sign production agreements with our farmers, and we renew then every season. Farmers fully honor these agreements." – Processor, Eastern region

"In 2020, we decided to adopt cash sales strictly because of the past experience. Before, we offered seeds to farmers on credit. However, after harvest, farmers refused to pay us and ran away with our money. We learnt from this experience and we have adopted cash on order. Farmers are okay with it; they are complying well with cash." – Agro-dealer, Northern region.

Examples of low reliability:

- Suppliers report several cases where they have reached an agreement with buyers, only for this to be retracted after the planting season has completed. In many cases this is an issue of integrity, where companies lie to SHFs deliberately. There are also instances where it is due to a lack of reliability, where companies have not followed through with their commitments, leaving SHFs without a market.
- In cases where cash is not immediately available, suppliers, particularly SHFs, may take produce elsewhere. This leaves SHFs with lower prices, aggregators with less produce, and can have a significantly detrimental impact on relationships.
- In rarer cases, suppliers change when there is a higher price on offer. Whilst creating a short-term profit for suppliers, again this has a detrimental effect on relationships.

"Every year, I change buyers, because of trust issues. In 2017, I was approached by a company to grow cassava, and was assured of a market, they even communicated prices to us. I grew 5 acres, transported it to the factory, only to find that the factory had closed." – Large farmer, Karamoja region

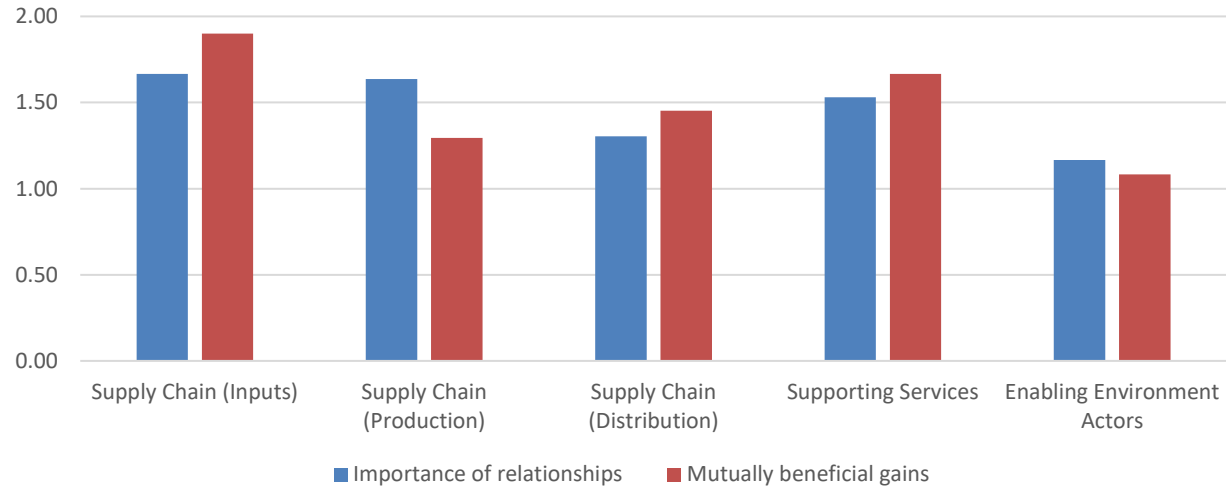
"Bulking is mostly on trust. Some farmers doubt us and wait until they hear that the money has come, then they bring the produce. This affects the volumes we need." – Farmer cooperative, Northern region

"We do change buyers when there is a buyer with better prices than the cooperative. This is normally when we are harvesting and when grain is not well dried. The cooperative wants well dried grain, but we may be having immediate challenges and need immediate cash" – SHF, South-Western region

COOPERATION

The degree of cooperation in a market system indicates the willingness of actors (individuals and groups) to invest their time in working with others for mutual benefit. This baseline report considers two specific dimensions of cooperation – belief in the importance of ongoing relationships and

Figure 10: Cooperation Scores by Market Position



belief in mutually beneficial purpose. These are assessed on a scale from 0 to 3 (low to high).

Belief in the importance of ongoing relationships has an index score of 1.57. In general, respondents were very positive, and the highest scores were from Input providers with 1.67. However, there is often no evidence of investments being made in others, despite the recognition from market actors that relationships were indeed important.

Examples of high belief in importance of relationships:

- Where there is a belief in importance of relationships, market actors demonstrate that they appreciate, and are appreciated, within their relationships. This is often in the form of tokens of appreciation, not necessarily related to business.
- Other strong responses indicate an appreciation of training, which has increased the capacities of those within relationships.

"They have given me gifts like goats in appreciation and often come to my home to check on me." – Stockist, Karamoja region

"Training '…' has exposed me to places I wouldn't have gone to like Kampala and Soroti. The skills gained have made me self-independent and economically self-sustaining. They have changed my life to the best." – Retailer, Karamoja region.

Examples of low belief in importance of relationships:

- Some respondents, particularly those dealing with large buyers or suppliers, indicated that whilst relationships were vital for them, they did not think this was mutual.

"We are not satisfied with our working relationship with our buyers. They do not fulfill their agreements with us because they are a monopoly. They think we have no other option but to supply them alone." – Farmer cooperative, Northern region

Belief in mutually beneficial gains has an index score of 1.59. This scoring is again highest for Input Providers (1.90), who recognize their role in the value chain, from production to distribution of inputs. Within the supply chain, Farmers had a much lower score (1.30), whilst Enabling Environment actors were the lowest (1.08).

Examples of high belief in beneficial gains:

- In most cases, when reporting beneficial gains, market actors stick to the financial benefit they see from relationships. In most cases this is recognized, although is not always even.
- In some cases, market actors went to great lengths to ensure partners received benefits, using training, transparent agreements, and open dialogue to address perceived issues of unfairness.

"To ensure that we both benefit equally, we train our farmers, do cost benefit analysis with farmers and explain the price they will get. If they do not see any profitability, they withdraw. Or, by the fact that he has agreed to grow, they have understood they will profit" – Farmer cooperative, Eastern region

Examples of low belief in beneficial gains:

- Gains from relationships are often reported to be one-sided, particularly where relationships are short-term and transaction focused. Respondents saw these relationships as extractive and unfair.
- However, in other cases, companies that invest heavily in SHFs report the majority of benefits being invested in SHFs.

"I think my buyers gain more benefits than me because what they buy from me, they take it very far to other markets out there and sell at a much higher price. So, they get a lot of money and benefit more than I do" – SHF, Karamoja region

"Yes, we all benefit but I benefit more than suppliers because I transport to better market and aim selling at a higher price than what I bought. We also improve on the quality; farmers bring produce when they are not clean as such. If they would clean, they would earn bigger." – Aggregator, South-Western region

3.5 QUALITY AND STRENGTH OF RELATIONSHIPS BASELINE SCORE

Improved quality and strength of relationships within networks is key to creating and sustaining systemic changes. The Uganda FtF IAM Activity will use this indicator to understand which aspects of relationships, and between which market actors, require strengthening the most. This indicator provides an overarching index, made up of four components of quality and strength of relationships, namely: communication; long-term orientation; social satisfaction; and economic satisfaction. These factors are measured on an indexed scale from 0 (low) to 3 (high) of levels of expectations between providers and consumers. The index values are constructed by analyzing each dimension according to assessment criteria, using thematic analysis, as detailed later in the findings section, for each dimension.

Table 10: Q&S Scores by Market Function

Market Function	Mean score (/3)
All (n = 161)	**1.51**
Supply Chain (n = 83)	1.55
Inputs (n = 31)	1.54
Farmers (n=24)	1.52
Distributors (n=23)	1.54
Support (n =20)	1.52
Enabling (n = 8)	1.05

Table 11: Q&S Scores by Demographic

Demographic	Mean score (/3)
Women (n = 38)	1.61
Men (n = 71)	1.46
Under 30 (n = 21)	1.73
30+ (n =90)	1.45

The overall score for quality and strength of relationships is 1.52 out of 3. This is consistent between most actor types. However, Enabling Environment actors were much lower, with a score of 1.05 – driven largely by government actor's dissatisfaction. Both women and the youth report higher scores than men and non-youth. The biggest difference, for both women and youth, is in the level of social satisfaction.

Each of the aspects of Quality and Strength of relationships are discussed below.

COMMUNICATION

The communication index score is 1.59. This measure captures the degree to which respondents felt they received timely useful information from their partners. Communication scores highest within the main supply chain, particularly by Farmers (1.68) and distributors (1.80), including aggregators and exporters. It is the lowest for Enabling Environment actors (1.14), particularly for government actors who were generally unsatisfied.

In stronger relationships:

- Market actors regularly communication with each other when there is a need, which is effective for facilitating transactions.

- Regular communication means information, when required, is communicated quickly.
- Communication is effective for resolving disputes amicably. This can be in the form of returning low-quality inputs, recovering credit, or organizing payment for goods.
- Communication takes various forms, from face-to-face, to phone and messaging, with a focus on less formal communication means.

"We have farmer representatives who are our point of entry in the community. We have been reliably using phones to contact farmer leaders to mobilize farmers for trainings, this has been the most effective way." – Private Extension Officer, Northern region

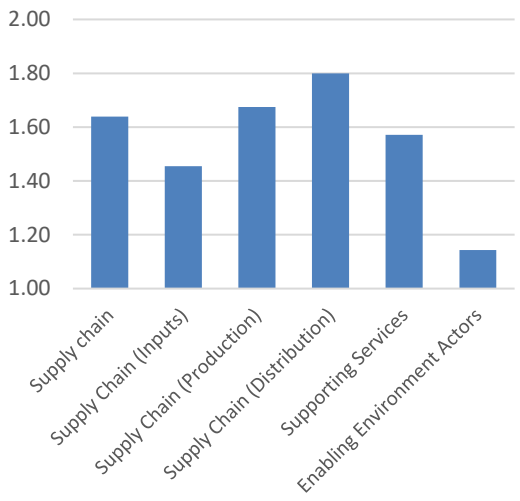


Figure 11: Communications Scores

"Many times, there is no regular information sharing but it is demand driven. For example, when we have stock we share that information, and customers ask what is available and the price. If there is a problem we see how to reconcile, whether to reduce the price or replace the stock." – Farmer cooperative, Northern region

In weaker relationships:

- The demand-driven approach to communication is overly reactive and lacks structure. More formal structures for communicating would encourage proactive communication, which would enable market actors to strengthen their businesses and relationships, rather than focusing on maintaining them.
- Communication can be hierarchical, with management structures for disseminating information that are not always reliable. SHFs often do not have phones, and lead farmers do not get all information to their networks. This can often lead to SHFs receiving incorrect information about prices or quality levels, which impacts their livelihoods.
- There is growing demand for communication solutions that use technology to provide information to many suppliers / customers.
- Government actors tend to have weaker communication levels than other actors, particularly with SHFs, where communication channels are indirect and ineffective.

"Currently we have 250 farmer groups who total 6,094 farmers. It is a challenge to reach them individually. We make phone calls to the farmer group leadership [but this] is not satisfactory. Chairpersons misinform farmers on prices to cheat them. This causes friction between the association and farmers. If we had a way of directly linking to farmers that would eliminate the gap." – Farmer cooperative, Northern region

"The frequency of our communication isn't often; we need to adopt technological/digital communication systems to increase the frequency of interaction. For example, zoom for remote operations and farmers platforms like WhatsApp and Facebook" – Industry Association, National

"We still have a gap in delivering adequate services to community-based actors because the District Production Offices aren't close to them enough. The District Production Officers need to get closer to communities and assess needs of actors" – National Government

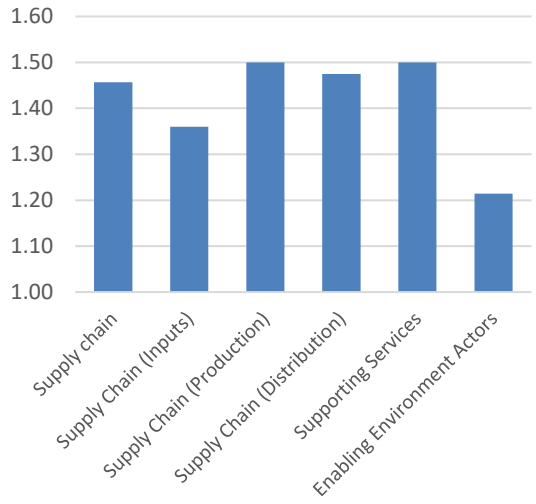
COVID-19 has also impacted communication. Travel restrictions have reduced market actors' ability to travel, meaning in-person communication has been reduced. However, as discussed within the BII findings, this has increased innovation. Market actors report having to find new ways of communicating, and this could have a positive effect on relationships in the long-term.

"Due to the COVID situation, we are not going to the field as frequently as we should. COVID has taught us to devise new ways of communicating with our agents, including WhatsApp and phone calls. This has reduced our operating costs. Therefore, I think it's important that we look at the new normal. For example, we are working with banks to see how our farmers can be supported with mobile phones. We definitely need to integrate information technology to improve communication." – Aggregator, Eastern region.

LONG-TERM ORIENTATION

The long-term orientation index score is 1.46. This measure captures the perception of interdependence of outcomes in which both a buyer and supplier can achieve mutual benefit and competitive advantage through long-term relationships with their partners. Scoring is generally low, with most market actors focusing on transactional relationships rather than creating joint goals with others. Service providers indicated the highest levels (1.5) as providers of new services, which encouraged a focus on investing in new and improved relationships with customers. Long-term orientation is lowest for Enabling Environment actors, and Input suppliers, who indicated the lack of long-term investment in relationships.

Figure 12: Long-term Orientation Scores



In stronger relationships:

- Partners do not change very often, and respondents clearly recognize the benefits of developing a relationship over time.
- Instances of improved commercial terms being given to long-standing customers include products given on credit, longer repayment terms, and increased acceptance of occasional delays in services.

"Farmers benefit because we offer favorable prices that they appreciate. If our cooperative doesn't buy from farmers, they make losses, as other buyers offer lower prices." – Farmer cooperative, Karamoja region.

In weaker relationships:

- In most cases, explicit long-term goals within relationships are not present. Respondents describe relationships in terms of long-standing transaction agreements, rather than relationships that involve mutual investments in one another's prospects.
- Particularly in relationships with SHFs, long-term orientation is low. Those who interact with SHFs expect their relationships to regularly change, due to macroeconomic conditions. For example, if demand is high, farmers will be recruited, but will be dropped again in following years with less demand.
- Those seeking to engage with SHFs also show low motivation for investing in building SHFs capacity over the long-term. Respondents are aware of what makes a SHF group easy to deal with (good

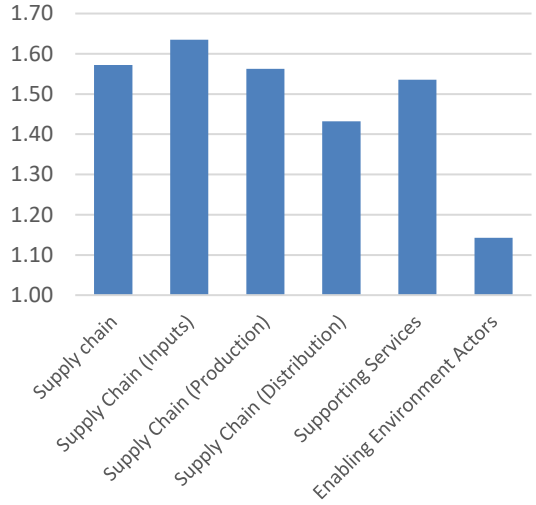
group structure, knowledge on quality, commercially driven) but do not indicate that they are investing in building these qualities.

"When the demand for our products is low, we reduce production and some farmers are affected (especially during COVID-19). You don't want to drop your suppliers unless it is the last option. We encourage farmers to produce in different seasons; or reduce acreage so that we are able to buy all they produce" – Processor, Eastern region

SOCIAL SATISFACTION

The social satisfaction index score is 1.54. This measure captures the extent to which market actors are satisfied with the social outcomes of the relationship, where actors have mutual respect and appreciates their exchanges. Scores were highest for input suppliers, with a score of 1.63, who broadly felt their relationships with buyers and suppliers were close and built on mutual respect. Again, Government actors reported very low scores. Exporters also reported low scores, citing problems in dealing with international buyers.

Figure 13: Social Satisfaction Scores



In stronger relationships:

- Mutual respect is a key factor, and where social satisfaction is scored highest there are examples of partners understanding the incentives of the other.
- Individuals recognize the need for a good relationship for businesses to thrive, and where there are high levels of social satisfaction, actors often recommend one another to others.

"We enjoy good feedback from the farmers we serve, they praise us before fellow farmers, and this has earned us many of their friends who end up joining our farmers network. Our farmers freely reach out to us for farm advice and solutions, consultation of crop pests and diseases and market for their produce, that's the proof for trust farmers have in us." – Agro-dealer, Northern region

"In addition to equipping us (farmers) with agricultural skills during seminars/trainings, AFRI-KAI treats me with dignity. Whenever I go to their office, they are hospitable; they receive me well, offer me a seat and serve me cool drinking water from the fridge" – Large farmer, Eastern region

In weaker relationships:

- Some respondents do not feel that they matter to their suppliers. This tends to happen when suppliers are very large and are seen as not giving adequate attention to customers.
- Again, indications of strong relationships are not backed-up by evidence of investments in each other's businesses.
- Generally, market actors complain that SHFs are not commercially minded enough and are often reliant on hand-outs.
- Government actors are particularly negative about social satisfaction, and do not believe SHFs support the government. Instead, SHFs are reported to blame government actors for failing to fulfil promises, indicating a breakdown of this relationship.

"The attitude of farmers is poor. [They have] high dependence syndrome and an NGO mentality of free things. Their limited willingness to improve production and invest resources is a big challenge. We invest money in training farmers, and we expect more returns, which isn't the case" – Exporter, Karamoja region

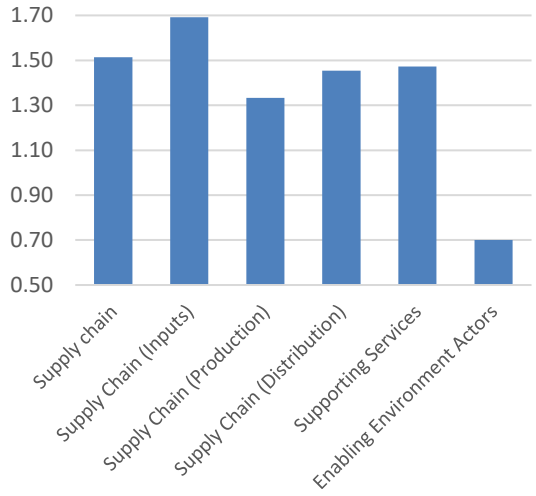
"Farmer services are not demand driven. You find that farmers have nothing to compare with. Whatever information they get, that is the best that they go with. There is no uniformity and at the end of the day, the farmer gets cheated" – Local Government, Karamoja region

"The problem is that [farmers] do not realize that it is them who form government. They keep blaming the government for empty promises, but they should know that Uganda is for all of us and we all have a role to play." – Local Government, South-Western region

ECONOMIC SATISFACTION

The economic satisfaction index score is 1.48. This measure captures the extent to which market actors are satisfied with the financial benefits coming from the relationship, where actors believe they are fairly rewarded for the value they contribute, whilst appreciating the value others contribute.

Figure 14: Economic Satisfaction Scores



Economic satisfaction scores significantly higher by input providers, who were able to achieve healthy profits from their interactions with customers and suppliers. Government and Farmers in the supply chain scored Economic Satisfaction the lowest. Government actors were consistent in their view that SHFs were consistently taken advantage of, a view also shared by other actors. Even if economic relationships were not deemed to be explicitly extractive, it is widely agreed that SHFs benefitted disproportionately less than others. Aggregators and traders were seen to benefit the most, from differences between farm-gate prices and market prices.

In stronger relationships:

- Orders are paid for on-time, and consistently. Reliability of buyers within relationships is one of the most important factors behind economic satisfaction.
- The right quality and quantity of produce is available to buyers, at the right times. Consistency of supply is highly valued in the market, and market actors both recognize and invest in these relationships.
- Respondents consistently recognize mutual gains from their partnerships.

"The inputs from our suppliers are of the greatest quality. Before we sell seeds, we conduct germination tests and the results are always positive. Our farmers enjoy buying from us due to the quality of seed we sell. We make profits from these seed and drug sales to farmers" – Agro-dealer, Eastern region

In weaker relationships:

- Prices can be very volatile, and losses are rarely shared. A lack of trust contributes to problems in sharing costs. For example, if prices change for a market actor, it can be difficult for a market actor to pass these on without losing credibility.

- Margins can also be very low, particularly for SHFs, who often have to sell when prices are lowest at harvest season.
- Economic benefits are not often shared equally, and respondents particularly focus on SHFs being exploited due to their lack of information. This is particularly the case from government actors, who indicate that, for SHFs, relationships are very extractive.

"Our buyers do not give us specific time when they are coming to buy they can promise to come at the start of the week then show up at the end of the week claiming that prices have changed within those few days. It is buyers' common practice not to offer consistent prices." – Farmer cooperative, Northern region

"The level of poverty here makes farmers give up their produce at very unfair prices. some farmers cannot wait for fair prices to come because they are too poor. The buyers pay cash there and then." – Farmer cooperative, Northern region

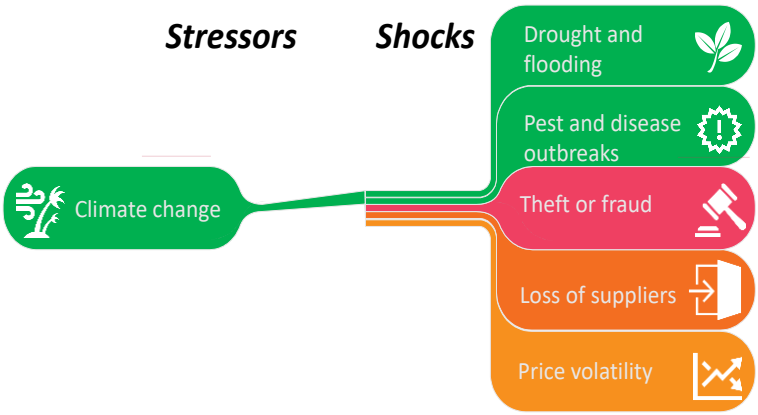
3.6 SYSTEMS RESILIENCE BASELINE

Resilience is a fundamental aspect of creating systemic change, and is one of the three target characteristics of a market system, alongside competitiveness and inclusiveness. Market systems resilience is "the ability of a market system to respond to disturbance (shocks and stresses) in a way that allows consistency and sustainability in the market system's functioning, or that leads to improvement in its functioning".[14] As a key objective of FtF IAM, this baseline report sets the starting point for understanding future progress FtF IAM makes to that end.

SHOCKS AND STRESSORS

The key shocks and stressors of relevance for FtF IAM's target market systems are at both system-level and firm-level. The baseline team sought to understand the most impactful shocks and stressors in the agricultural sector of Uganda.

Figure 15: Shocks & Stressors in the Agricultural Sector



Stressors:

- **Climate change is a long-standing stressor.** Respondents report that climate change is a long-term stressor decreasing the productivity of farms. Rain is becoming less predictable and growing climates are changing.

Shocks:

- **Climate change is also impacting the frequency of environmental shocks**. These include pest and disease outbreaks, as well as drought or flooding. Respondents report that these factors are increasing in severity as climate change continues to impact on agricultural production.
- **Theft and counterfeits are common**. Firms are aware of the risk of counterfeits and of theft, meaning they must take extra measures to protect against this. Theft may occur on farm or at the store or during trade when conmen disguise as agents of known companies. Also, the scales that are used during the buying and selling of produce. Cattle rustlers are also a threat in Karamoja.
- **Suppliers can quickly change in the market**. Formal agreements are not common, and not always honoured, meaning reliable sourcing of produce can be difficult for firms. This lack of market is always accompanied by price volatility. In a few cases where there are formal agreements, the price volatility poses the challenge of keeping farmers motivated in producing the same crop. When there's increase in the amount of produce the prices are low and when the produce is low the prices are high.
- **Prices and market access are both volatile.** Market actors suffer significant fluctuations in prices and market access and do not have the capacity to absorb these, with no low access to storage or finance.

[14] Vroegindewey, R., 2019, *Guidance for Assessing Resilience in Market Systems*

DYNAMIC SYSTEMS RESILIENCE INDEX (DSRI)

FtF IAM is applying the DSRi to understand the resilience of agricultural market system towards such shocks and stressors. This framework is informed by MSA's research of, work on and measurement of market systems resilience in other programmes[15], as well as the Disrupting System Dynamics framework for measuring system change, the market systems health indicators,[16]. It also draws upon USAID's guidance papers for assessing resilience,[17] as well as lessons from iDE's work to apply the concepts of resilience,[18] amongst other sources. The DSRi includes six factors outlined in table 12.

Table 12: The factors of the DSRi

Factor	Description	Contribution to Market Systems Resilience
Market Governance	How effectively the system governs itself	Systems that develops & enforce rules that are fair & applied universally have better capacity to identify & resolve issues
Diversity	Diversity of market actor characteristics within the system, including actor type, size, and business models	Systems with more diversity is more likely to have the attributes available to respond to shocks and stressors.
Networks	The quality & quantity of relationships that exist between actors in the target market system	Stronger linkages & social capital between market actors enables collective action to identify & pursue solutions in the face of shocks & stressors
Commercial Norms	The commercial norms that drive the behavior of key market actors	Key commercial norms, including trust & cooperation, are essential for collaboration that enables win-win solution-seeking & implementation in the face of shocks & stressors.
Participation	The degree to which the market system permits the participation of a diverse set of stakeholders in its governance and other key roles, including women and traditionally marginalized groups	Market systems with broad participation in decision-making and in key roles are likely to be exposed to a greater range of perspectives and engage a broader range of stakeholders to participate in the design and implementation of and buy-in to solutions that address shocks & stressors.
Learning & decision-making	The extent to which the system is oriented to learning & is data-oriented	A system that learns will adapt better in the face of shocks & stressors, and potentially mitigate these

[15] Including the SHARPE project in Ethiopia, among others.
[16] Sparkman, T., Field, M., Derks, E., for MarketShare Associates, 2016, Practical Tools for Measuring System Health, USAID.
[17] Downing, J., Field, M., Ripley, M., Sebstad, J., 2018, Market Systems Resilience: A Framework for Measurement, USAID
[18] Ambrosino, C., MacArthur Wellstein J. , Kumer Barua, B., Ullah H., Introducing and operationalizing the Market System Resilience Index (MSRI), iDE Global

This baseline assesses the factors of resilience at both the system, and sub-system level. Multiple data sources contribute to the baseline assessment of each factor of resilience. These data sources are mapped against each factor of resilience in table 13. On an annual basis, further data collection will be undertaken, which will also use additional data sources as relevant. Potential additional data sources are also outlined in table 13.

Table 13: DSRi Data Sources

System-Level	Related Metrics	Relevance of Metric
Market Governance	Market governance norms index	Provides understanding of the adherence to both formal and informal rules and regulations
Diversity	Business Innovation Index	Measures the pace of change within a system at a point in time
	Number of suppliers offering a variety of input & services in selected market	*Potential future data source*
Networks	Quality & Strength of Relationships	Provides understanding of the strength of relationships within networks
Commercial Norms	Trust and Cooperation between market actors	Provides understanding of norms of trust and cooperation within the system
Participation	Market systems inclusion index	Provides understanding of women and youth's levels of access and agency
	MDF Inclusion Framework and Scorecard (under development)	*Potential future data source*
Learning & decision-making	Learning index	Provides understanding of how information is accesses and used

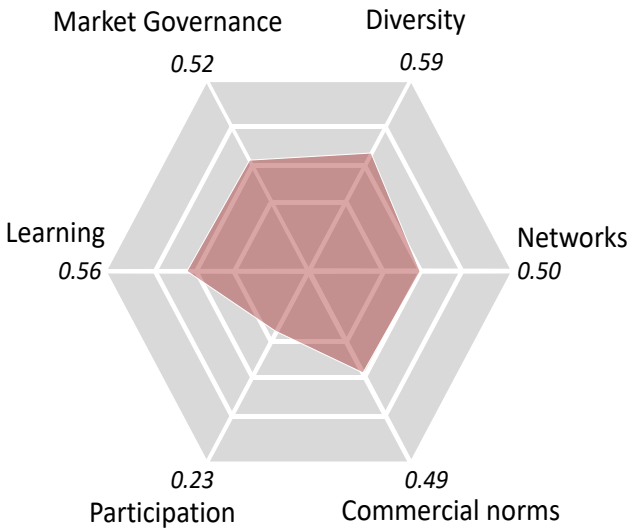
The findings from this baseline provides a detailed assessment of resilience against each factor for the overall agricultural system. This will provide a flexible and consistent framework to assess progress against the system-level indicators that impact resilience, as well as a reference point for resilience of sub-systems the FtF IAM Activity begins to work with in the future. Each factor is scored separately to enable individual analysis.

The baseline also assesses the factors of resilience within two sub-systems. To better understand resilience within the market, this baseline also looks specifically at two sub-systems: the inputs sub-system and the food processing and trade sub-system. These are presented after the detailed analysis of the overall system and factors of resilience.

THE AGRICULTURAL SYSTEM

The DSRi for the overall agricultural sector show there is significant room for growth, particularly in inclusion and governance. Figure 16 provides a graphical representation of the factors of systems resilience. We can see that diversity is the highest measure and indicates the amount of innovation already happening within the broad agricultural market. Lowest is participation, with women and youth significantly limited in terms of both their access and agency. More detailed assessments of each factor are below:

Figure 16: DSRi for the Agricultural System



MARKET GOVERNANCE

Market governance, scored using the market governance norms index, is 0.52.

Key findings related to baseline analysis (see section 3.3) include:

- There is an overall negative expectation towards compliance with agricultural rules and regulations. This lack of adherence is significant for resilience, as it reduces a system's ability to resolve issues through collective action.
- Both informal and formal sanctions are high. However, it is the lack of information with which to apply these sanctions that is missing.

DIVERSITY

Diversity, scored using the BII, is 0.59.

Key findings related to baseline analysis (see section 3.2) include:

- The score for diversity is already relatively high. The baseline has identified a marked increase in the amount of changes being made by market actors due to COVID-19. This indicates the system is capable of adapting models in the short-term.

NETWORKS

Networks, using the Quality and Strength index, is 0.50.

Key findings related to baseline analysis (see section 3.5) include:

- Market actors consistently recognize the need for a strong network and can frequently cite examples of relationships that were not satisfactory. However, this often does not translate into investments being made into relationships, indicating a lack of commitment to long-term goals, meaning these relationships can quickly change in the face of challenges.
- Economic satisfaction is affected by tight margins within the agricultural sector, and fluctuating prices can leave market actors making losses, which are often, at least in part, passed to SHFs. This indicates that adverse economic conditions could quickly make a significant number of market actors unviable.

COMMERCIAL NORMS

Commercial norms, using the Trust and Cooperation index, is 0.49.

Key findings related to baseline analysis (see section 3.5) include:

- Trust is lower than cooperation. This indicates that market actors are quick to identify the benefits of cooperation, but do not actually invest in these. Trust, and particularly integrity, is perceived to be low by some key actors, including SHFs, indicating that it would be expected that many market actors would not have faith in others to do the right thing in the event of a shock or stress event.

PARTICIPATION

Participation, using the inclusion index, is 0.23.

Inclusion of vulnerable groups is important for the proper functioning of a market system, with the potential for creating robust economic growth. The two groups assessed within this baseline are women and youth, for which there are direct targets for impact.

To measure participation, this baseline assesses both women and youth's access and agency within the system to create an indexed score. A group's agency is enhanced when they have the capacity to make decisions, act on opportunities, and influence their surroundings, towards the goal of economic advancement. The index values are constructed on three aspects of access that include access to opportunities, economic position, and others willingness to grant opportunities. A group's agency is enhanced when they have the capacity to make decisions, act on opportunities, and influence their surroundings, towards the goal of economic advancement. The aspects of agency include decision making power, positions of authority held, and type of work.

Evaluating qualitative responses against each aspect yielded a score against the three dimensions of access and agency, which were combined to create an index score from 0 (low) to 3 (high). This score is standardized to a 0 – 1 scale for the FRF. This breakdown can be found in table 14.

Table 14: Inclusivity Scores by Function

Market Function	Mean score (/3)	DSRi score (/1)
Inclusion (n = 49)	**0.70**	**0.23**
Access	0.52	0.17
Agency	0.89	0.30

Women

Access

- Women's access to opportunities is highest in production. Here, women play different roles, usually in land clearing, planting, and weeding.
- Women are restricted in their access to opportunities outside of production, particularly when it comes to the sale of produce, where there are mobility constraints or social norms that prevent women from selling products.
- Whilst respondents generally report women to be as effective as men in agricultural production and as entrepreneurs', they also see them as constrained by traditional roles they hold as home-keepers.

- There are signs that access is increasing. Respondents note that the number of women-owned businesses is rising, and the government has put in place frameworks to support women and youth.

> *"When it is time of production, women are involved but when comes to selling its men who do the planning and selling, women have more opportunities in production and least in marketing. Even in processing after harvesting things go in hands of men. Women need capital especially those who do not work, they need training on how they can do other activities like poultry that brings money other than digging"*
>
> *Female SHF, South-Western region*

Agency

- Respondents report that women are not often decision makers, which is strongly linked to their lack of land tenure and finance as well as prevalent social norms in rural communities. It is often men who make important decisions.
- Respondents also report that women are poorly represented in positions of power and are often excluded from certain parts of the value chain beyond production. Whilst there is some representation within farmer cooperatives, this is often restricted to the secretary or treasurer position.

> *"Women and youth are disadvantaged because they are not landowners, so they don't make decisions on what crops should be grown. Some support services are not gender sensitive. Sometimes women do not have the capacity to motivate the extension workers to support them"*
>
> Female Processor, Northern region

> *"Women are victims of tradition in Uganda. Land belongs to the men. Women till the land, harvest the crops, but the seller at the end of the day is the man. Because women do not own land, they cannot control which economic activities takes place. Regarding leadership, women have been emancipated enough, it's just that they are not aware of this fact."*
>
> Local Government, South-Western region

Youth

Access

- The youth are reported to have access to opportunities within agriculture but are seen to lack the motivation and technical skill to run farms over the long-term.
- As with women, youth's access to finance and land is limited. This means youth mainly have opportunities in areas that require low investment and provide quicker returns.

- Opinions towards the youth diverge significantly, between highly positive and negative, which impacts their access to opportunities. When seen positively, the youth are seen as innovators able to take risks and are therefore seen as important actors. However, many respondents see the youth as lazy, and focused on quick profits – leading them to be untrustworthy.

"In production, youth are not fully engaged because they lack access to land as land in this community is controlled by elders; the out of school youth are jobless and can't afford to raise the required funds to open up land, buy inputs for production."

Large farmer, Karamoja region

"Most youth are not interested in Agriculture as a whole because they have high preference for quick cash. That's why a few who are engaged in agriculture are practicing horticultural production due to quick maturity and high marketability."

Input agro-dealer, Northern region

Agency

- The youth demonstrate some level of agency in their general preference for work outside of traditional agricultural production. Instead, they choose to go into service industries, with a greater understanding of technology, and generally higher levels of education, than older generations.
- They are very rarely in positions of power, and so do not easily influence decisions. However, there are policies put in place that directly target the youth and aim to improve their economic prospects, indicating the government is responsive to their needs.

"Youth who have gone to school see agriculture as a last resort. They have grown up with a negative attitude towards agriculture"

Local Government, South-Western region

"Youth don't make decisions in production though they are many and they are energetic. They are involved in production but under their parents. We need youth to produce independently and market independently."

Processor, South-Western region

LEARNING

The Learning scoring index is 0.56. Knowing how businesses learn tells us what information is currently available, how effectively information is currently shared, what information is most useful, and how information is used by market actors in decision making. Understanding behaviors around learning will guide FtF IAM on how to positively influence the effectiveness of learning among the market actors, whilst also helping determine how to disseminate information to encourage new ways of doing business.

To measure the scope of Learning, MarketShare Associates applied an indexed scale. The index values are constructed on three aspects of learning that include the quality of information, the sources and types of information and the use of information. Qualitative responses are assessed against criteria for the three dimensions of learning using a scale from 0 - 3. This score is standardized to a 0 – 1 scale for the FRF. This breakdown can be found in table 15.

Table 15: Learning Scores

Dimension of learning	Mean score (/3)	DSRi score (/1)
ALL (n = 102)	**1.67**	**0.56**
Quality of information	1	0.30
Source/type of information	2.5	0.83
Use of information	1.5	0.50

Key findings include:

- Information is shared to varying degrees between different market actors. Suppliers mainly give information to customers that specifically relates to the product they offer, and which facilitates a transaction. This includes information on delivery, price, and new products.
- Information is not regularly reported to be used in decision making or performance tracking. Some market actors report collecting feedback, usually informally, which is used to inform future stocking decisions, but there do not seem to be formal processes for this.
- Respondents report using a range of information sources. However, this significantly decreases in more remote rural areas. Here, information is broadcast through networks of agents and lead farmers, however this can lead to incorrect information being provided.
- Market actors are increasingly looking to use technology to increase information availability. This targets direct links within the market, particularly to SHFs who often can only be reached through agents and lead farmers.
- SHFs are at the highest risk of being unable to access information for learning. This affects SHFs' ability to grow the right crops, the production techniques they use, and the prices they sell at.
- COVID-19 has impacted how effectively firms access information for learning. Market actors who need to reach farmers have resorted primarily to the use of mobile phones, but also report using radio programs and social media to provide information to others.

Box 1: The growing role of technology for learning

Technology is increasingly being sought after and used in the agricultural sector of Uganda to provide opportunities for learning. A few examples include:

"We feel we are not reaching out to farmers directly and adequately and planning to develop a digital communication platform when we can send SMS directly to farmers and pay directly to them without going through Village Agents" – Processor, Eastern region

"We recently started accessing information on genuine products through codes which indicate whether a product is genuine or counterfeit" – Agro-dealer, Karamoja region

"We normally share information with our suppliers and buyers through ITC platform developed by info trade one of our partners where information on markets, weather changed, weather focus messages are shared" – Processor, South-Western region

This could be so, because the way rules are developed and enforced in the two subsystems does not differ with how rules are developed and enforced overall. The quality & quantity of relationships that exist between actors in the target market system (networks) is similar across the board i.e. does not differ according to subsystems.

DSRI: THE INPUTS SUB-SYSTEM

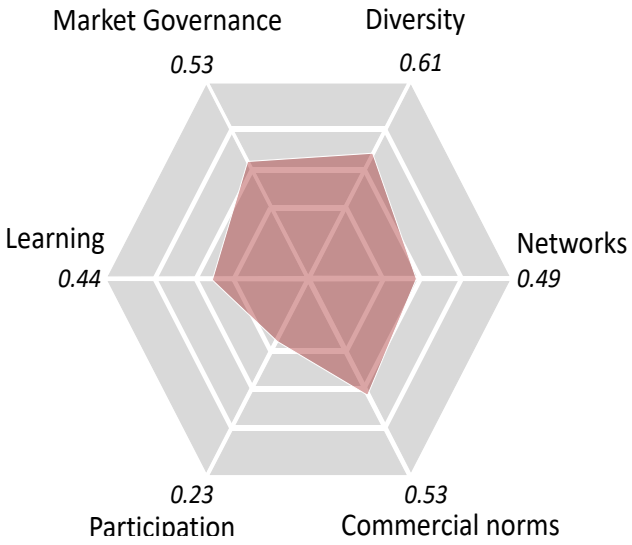
MARKET GOVERNANCE

In the inputs sub-sector, market governance scores 0.53. There is little variation between this score and the score for the overall agricultural sector. Counterfeit products are the primary issue for respondents.

DIVERSITY

Diversity scores 0.61 and is markedly higher than the overall agricultural sector. Innovations in this sub-sector are mostly from new products and services and payments, like the most common innovations within the whole sector. The inputs sub-sector, however, shows fewer innovations within packaging, and more innovations in supplier capacity building than the overall agricultural system.

Figure 17: DSRi – Inputs Sub-System



NETWORKS

Networks score 0.49 in the inputs sub=sector, slightly lower than the overall agricultural system. This difference is due to lower scores of communication and long-term orientation, with respondents reporting more frequent issues and lower levels of co-investments between market actors.

COMMERCIAL NORMS

Commercial norms score 0.53, like the overall agricultural system. Trust also scored similarly, whilst cooperation is higher, with actors in the inputs sub-system more likely to believe in the importance of relationships.

PARTICIPATION

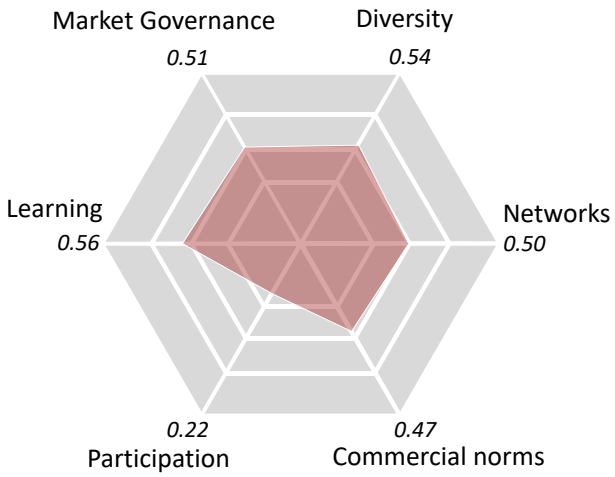
The participation within the inputs sub-system scores 0.23. This is very low and matches the agricultural system. This finding is consistent with the finding that youth and women are mostly involved in the production sector, but do not have the finances to be involved in trade, limiting the opportunities they have within the input sub-system.

LEARNING

Learning for the inputs sub-system scores 0.44. This is lower than the agricultural system, primarily due to the reduced number of information sources available to those within the sub-system. Information on inputs, for many in rural areas, is only available from the supplier, and there is little information available with which market actors can verify input quality.

DSRI: THE FOOD PROCESSING AND TRADE SUB-SYSTEM

Figure 18: DSRi – Food Processing and Trade Sub-System



MARKET GOVERNANCE

In the inputs sub-system, market governance scores 0.51. There is little variation between this score and the score for the overall agricultural sector. Respondents focus on the prevalence of counterfeits, and mention the practices followed by SHFs in production, and how this can impact quality.

DIVERSITY

Diversity scores 0.54, lower than the overall agricultural sector. Innovations in this sub-system are mostly from new products and services and payments, like the most common innovations within the whole sector. The food processing and trade sub-sector differs from the overall agricultural sector in that is has fewer innovations within marketing and transport, but more in packaging and product differentiation.

NETWORKS

Networks score 0.50 in the inputs sub-system, like the overall agricultural sector. However, individual aspects vary substantially. Economic satisfaction is much lower for the food processing and trade sub-system, particularly due to the risk of losses from low quality products. Communication is scored more highly within the sub-system.

COMMERCIAL NORMS

Commercial norms score 0.47, lower than the overall agricultural system. Trust also scored similarly, whilst cooperation is lower, particularly the belief in mutually beneficial gains. The baseline found that many within the food processing and trade sub-system believed others to extract as much value as they could, often using dishonest means to procure agricultural produce as cheaply as possible.

PARTICIPATION

The participation within the food processing and trade subsystem scores 0.22. This is very low, and slightly lower than the agricultural system. Women and youth are most excluded from higher value markets and marketing of produce and are usually involved only in primary production of manual labor within processing, without the finances to be involved in trade.

LEARNING

Learning for the food processing and trade sub-system scores 0.56. This matches the agricultural system, with low quality of information, low use of information for decision making, but a high number of information sources available.

3.7 COVID-19

In addition to the findings against each of the systems-level indicators, the baseline has collected a significant amount of information on the impacts of COVID-19. This will have significant impacts on the FtF IAM Activity, in the short, medium, and long term. The key areas of impact are outlined below:

Reduced interaction between market actors

Travel restrictions and safety concerns have resulted in a reduction in the interactions between market actors. This has led to several changes in the market, including an increased use of technology to facilitate communication, information sharing and commercial transactions. These innovations have cushioned the impact, however there is an overall negative impact on the interactions between market players, particularly SHFs, who most effectively collaborate in-person.

"*Due to the COVID situation, we are not going to the field as frequently as we should. Now we communicate with farmers over the phone.*" – Aggregator, Eastern region

Reduced access to markets

Travel restrictions have also reduced market actor's ability to access markets. For example, SHFs have been unable to travel to agro-dealers to purchase products, and aggregators have been unable to collect produce. Innovations have included an increased reliance on private vehicles, but this is increasing costs for those who can afford it and is not a viable option for many of the poorest who rely on tight margins.

Those relying on imports and exports have been particularly affected, with borders closing. This has meant agricultural inputs are not available at agro-dealers, and processors are not able to export products.

"This season, I mobilized farmers, aggregated their orders but our supplier didn't deliver seeds because of the COVID-19 restrictions on mobility of vehicles and closing of shops. I explained to the farmers and they bought local seeds from markets for planting" – Agro-dealer, Karamoja region

"COVID-19 affected most of our member's businesses. Some suppliers couldn't import inputs and agro-dealers ran out of stock of most inputs. Others couldn't access suppliers due to restricted movements and curfew rules. Some businesses operated for fewer hours or the agro-dealers closed shops and returned to their respective villages" – Industry association, National

Increased volatility of prices

COVID-19 has increased the volatility in markets, with some products in very high demand, and others suffering extremely low demand. For products that no longer have a clear market, prices have plunged. It is not yet clear how this will impact the system, but anecdotally this is already impacting incomes of SHFs, and of market actors that provide supporting services, such as financers or transport companies.

"When the demand for our products is low, we reduce production and some farmers are affected with reduced suppliers or no supply at all. This is especially the case during COVID-19" – Processor, South-Western region.

"*COVID-19 has affected businesses adversely. Cash flows of our borrowers make it hard for them to repay their loans smoothly*" – Microfinance institution, Karamoja region

4. NEXT STEPS FOR FTF IAM

How this baseline report is used is important for the Activity's ability to create sustained change within the Ugandan agricultural market. Potential areas for focus for FtF IAM are outlined in this section.

4.1 USING THE BASELINE TO INFORM DECISIONS

The FtF IAM Activity will benefit most from the findings in this baseline report if they are integrated into intervention planning at an early stage. To ensure this is the case, the research team will present findings to the rest of the team, presenting the main findings. This will be followed up with by secondary sessions, either as a presentation or as part of more focused discussions, to allow all relevant insights to be gathered from the report.

Key findings include:

- Innovation is high, and has been impacted by COVID-19

Understanding the current rate and type of innovation in the market will be important for the FtF IAM Activity. This baseline report finds that innovation rates are high, particularly in products and payments, and FtF IAM can look to these areas to build on. Further innovation in payments and transport has been stimulated by COVID-19, and the FtF IAM Activity can look here to assess the nature of these innovations, whether or not they are likely to be sustained, will need to recognize the current high level of innovation, and use the baseline findings to determine the extent to which these are likely to be sustained.

- Relationships are primarily transactional, despite a recognition that they are fundamental to future success

The way relationships are formed and are maintained has a significant impact on a market system, and the FtF IAM activity will need to understand these dynamics to be able to effectively facilitate change. This baseline finds that, although actors are aware of the benefits of strong relationships, they are not currently investing in these. Building trust and cooperation, as well as increasing market actors' long-term orientation, could be a key part of FtF IAM's future interventions.

- Market governance is not strong

Whilst respondents report they are both morally against counterfeit goods and the breaking of rules and regulations, and that punishments are high, there remains a high prevalence of rule breaking. This seems to present a significant opportunity for FtF IAM, as once instances of selling counterfeit inputs are more visible there is likely to be strong pressure to revamp this.

- Resilience is multi-faceted, and needs to be monitored over time and across sub-systems to be understood

Systems resilience is complex and dynamic, fluctuating depending on factors both internal and external to a system. This baseline outlines scores for resilience in the current context, and the FtF IAM Activity should use this as a starting point for continued assessments of resilience, how it changes and how it varies from sub-system to sub-system.

4.2 IDENTIFICATION OF FUTURE AREAS OF STUDY

Whilst this baseline report comprehensively covers the systems-level indicators, there are other areas where additional insights may be useful to the FtF IAM Activity. Potential future areas of study are outlined below:

COVID-19 MONITORING

The impacts of COVID-19 are still only just being felt, with many businesses now looking at how to function within a "new normal". During the baseline, it was clear that many businesses were trying to continue to function as normal, with as little changes to their models as possible. Depending on how long the COVID-19 pandemic continues for, and how impactful future interventions are on businesses ability to operate, this normal could take many different forms.

As the Activity begins, it will be important for FtF IAM to continue to monitor the impacts of COVID-19 on the system. This will allow them to react to changes, and as understanding increases, to be proactive in supporting businesses and poor people to thrive in a new context.

ASSESSING SIGNIFICANCE OF INNOVATIONS

Whilst the BII assesses the pace of change in a system, it does not assess the significance of innovations within the market, their impacts on the poor, or their likelihood of being sustained. To be able to identify trends in the market that could potentially improve incomes of the poor, the FtF IAM team can look further into innovation, with the aim of assessing which innovation themes are most likely to be transformative and thus may be relevant for the Activity to build on.

IDENTIFICATION OF OTHER VULNERABLE GROUPS

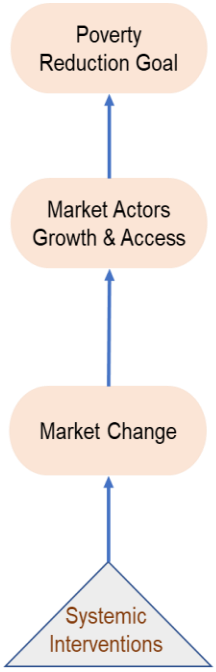
This baseline focused on collecting data in relation to the systems-level indicators that the FtF IAM Activity will be reporting against. These are focused on women and the youth as vulnerable groups, and this report makes contributions to the Activity's understanding of how they are included or excluded in the agricultural system. However, there are other groups that have not been included, and warrant further study.

Additional groups include but are not limited to, refugees both in and outside of camps; people with disabilities; and particular excluded ethnic groups. In each case, research can aim to understand the unique constraints faced by the group, and how the group can be integrated into markets.

4.3 STIMULATE DISCUSSIONS WITH KEY MARKET ACTORS

This baseline contributes valuable information on the agricultural system. With this in mind, the findings can be used by FtF IAM to engage with key stakeholders at various levels, by giving FtF IAM staff additional information to share with prospective partners. With increased information, FtF IAM staff will be better placed to have technical discussions with market actors, and better able to direct these discussions into areas that are most likely to benefit the poor.

ANNEX 1: THEORY OF CHANGE



which will ultimately lead to

sustained improvements in the exchange of goods and services within the system thereby **increasing incomes** & **improving livelihoods** of households.

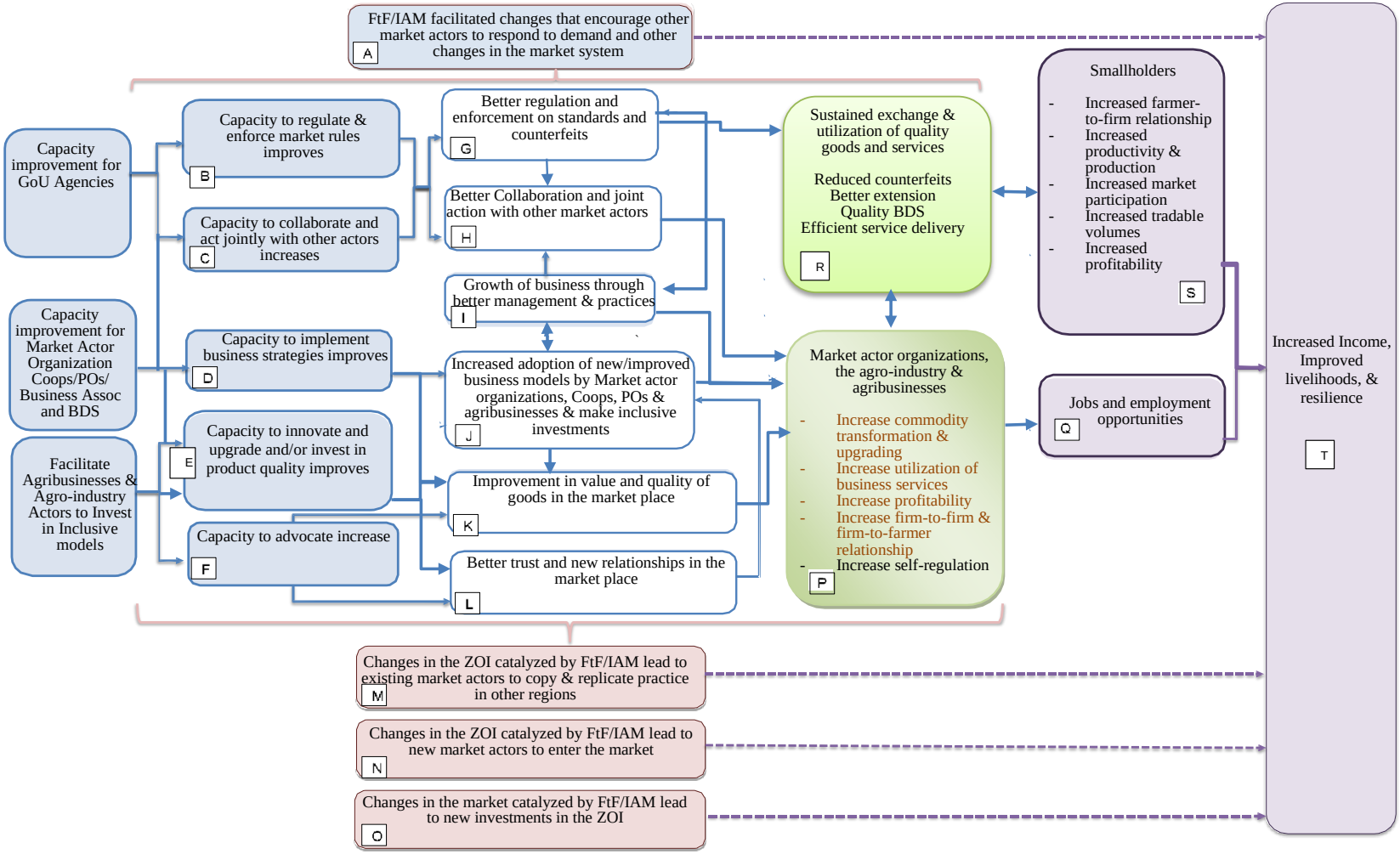
then there will be

- increased transformation and upgrading of agricultural commodities;
- increased and equitable utilization of quality inputs and services;
- increased capacity of market actors to profitably engage in the agricultural marketplace;
- strengthened implementation and enforcement of rules (formal and informal) and regulations;
- & strengthened and more inclusive inter and intra-actor relationships,

so that they increase efficiencies in responding to demand and other changes in the market system

FtF IAM *will* Channel investments inclusively to facilitate agro-industry/agribusiness firms, market actor organizations, & GOU institutions

Figure 19: FtF IAM Theory of Change



ANNEX 2: LIST OF INTERVIEWS PER ACTOR TYPE

Table 16: Phase 1 questionnaires, respondents, and number of interviews

Market system function	Respondent type	Target # of interviews	Completed # of interviews
Supply Chain (Inputs)	Input / Seed producers	6	6
Supply Chain (Inputs)	Input / Seed/ Equipment wholesalers	6	8
Supply Chain (Inputs)	Input agro-dealers	8	19
Supply Chain (Inputs)	Seed agro-dealers	8	8
Supply Chain (Inputs)	Distributers / stockists	4	4
Supply Chain (Inputs)	Retailers	4	5
Supply Chain (Farmers)	Smallholder farmers	8	6
Supply Chain (Farmers)	Medium and large commercial farmers	6	7
Supply Chain (Farmers)	Farmer groups and cooperatives	8	13
Supply Chain (Post-production)	Large-scale aggregators	8	10
Supply Chain (Post-production)	Small-scale aggregators and traders	8	10
Supply Chain (Post-production)	Storage facilities	4	1
Supply Chain (Post-production)	Processors (includes millers)	6	9
Supply Chain (Post-production)	Exporters (The Grain Council of Uganda)	4	4
Supply Chain (Post-production)	Household consumers (men and women)	8	6
Supporting Services	Transporters	4	5
Supporting Services	Government extension service providers	6	7
Supporting Services	Private extension service providers	6	6
Supporting Services	IT extension service providers	5	3
Supporting Services	Business development service providers	4	5
Supporting Services	Microfinance Institutions	4	4

Supporting Services	Banks	4	7
Supporting Services	Insurance Companies	3	1
Supporting Services	Mobile Banking	4	1
Supporting Services	Market Information Providers	4	1
Supporting Services	Weather information Providers	1	1
Enabling Environment Actors	Industry Associations	4	4
Enabling Environment Actors	Local Government Actors	5	5
Enabling Environment Actors	National Government Actors	3	1
Enabling Environment Actors	International Development Actors	2	3
Enabling Environment Actors	Community Radio	2	3
Enabling Environment Actors	Researchers (i.e. CGIAR)	2	1
Enabling Environment Actors	Journalists	2	3
TOTAL		**171**	**176**

Table 17: Phase 2 KIIs, respondents and number of interviews

Market system function	Respondent type	Target # of interviews	Completed # of interviews
Supply Chain (Inputs)	Input / Seed producers	2	1
Supply Chain (Inputs)	Input agro-dealers	2	2
Supply Chain (Inputs)	Seed agro-dealers	0	1
Supply Chain (Inputs)	Distributers / stockists	1	1
Supply Chain (Inputs)	Retailers	2	1
Supply Chain (Farmers)	Smallholder farmers	4	6
Supply Chain (Farmers)	Medium and large commercial farmers	2	4
Supply Chain (Farmers)	Farmer groups and cooperatives	4	7

Supply Chain (Post-production)	Large-scale aggregators	2	2
Supply Chain (Post-production)	Small-scale aggregators and traders	3	3
Supply Chain (Post-production)	Processors (includes millers)	2	3
Supply Chain (Post-production)	Exporters (The Grain Council of Uganda)	1	1
Supporting Services	Government extension service providers	1	1
Supporting Services	Private extension service providers	1	1
Supporting Services	Microfinance Institutions	1	1
Supporting Services	Banks	1	0
Enabling Environment Actors	Industry Associations	1	2
Enabling Environment Actors	Local Government Actors	2	2
Enabling Environment Actors	National Government Actors	1	1
Enabling Environment Actors	Researchers (i.e. CGIAR)	0	1
TOTAL		**32**	**41**